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THE

RETROSPECT

OF

PRACTICAL MEDICINE AND SURGERY,

BEING A

HALF-YEARLY JOURNAL,

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

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At the end of this volume the Editor had intended to draw up a kind of practical index, to point out at one glance (and with reference to those parts of the preceding volumes where more lengthy details might be found) such improvements on any given subject as might have been published within the last four years. For example, if a practitioner were in attendance on a case of hæmoptysis, or stone in the bladder, or any other disease, he would find it very convenient to refer in a moment to some index where all the different improvements, whether of medicines or instruments, respecting that subject, were pointed out in a few lines, and by which he could refer at once to such as he might not be thoroughly conversant with. The labour, however, was found to be too great to allow of its accomplishment in the present volume, but the Editor hopes to present such an analytical table in his next volume, and to continue it every few years. He takes this opportunity once more of thanking the different journalists for the use of their works, and also his numerous subscribers for the unexpected encouragement which they have given him, and which has placed this Retrospect very high in point of circulation among the medical journals of Great Britain. It has now, in fact, a

circulation at least equal to that of any of the Medical Journals, with one exception, and superior to most of them. It is probable likewise that it is read by a great many practitioners who have not the opportunity of seeing any of the other medical periodicals. The Editor therefore considers that it is a favourable medium for literary announcements; and he will be happy to devote as much space at the end of each succeeding volume as the urgency and importance of the matter from the journals will allow him to give to this subject. All recently published works, or new editions of old ones, may be forwarded to the Editor, care of Messrs. Simpkin and Co., London.

Park-Square, Leeds,
December, 1843.

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RETROSPECT.

PRACTICAL MEDICINE,

&c. &c.

ART. I.—ON THE ACTIVE PRINCIPLE OF MALARIA.

By DANIEL P. GARDNER, M.D., Professor of Chemistry, &c., in Hampden Sidney College.

[A very interesting paper on this subject is published in the American Journal of Medical Sciences. Dr. Gardner asserts, and in our opinion proves, the truth of the following propositions.]

1st. Sulphuretted hydrogen gas exists in the stagnant waters, and atmosphere of certain marshes.

2d. The character of malarious regions is similar to that of those in which sulphuretted hydrogen is generated.

3d. Certain agents have been supposed to give activity to the exhalations arising from marshes, called malaria.

4th. The properties of malaria are fully recognised by the profession.

5th. Sulphuretted hydrogen is the active agent in the production of those forms of malarious fever met with on the sea coast, and the diseases belonging to the same class found inland.

[He proves the truth of the first proposition by bringing silver, prepared for the experiment, into contact with the air and water in those situations where sulphuretted hydrogen was suspected to be given out. He found that it was almost impossible to procure a sufficient bulk of atmospheric air to detect the presence of the gas; and he was therefore unable to detect it in those specimens which were taken from the neighbourhood of marshes; but on making use of silver, prepared for the purpose, and placing it in certain situations, he thus possessed one of the most delicate tests for sulphur, and one which is not liable to be attacked by the many agents which act upon lead, copper, &c.]

The silver must present a pure surface. To effect this, it should be kept in contact with a boiling solution of caustic potash and alum. The process must be continued through one or two changes of the solution, if the metal be very unclean. The last

should be evaporated to dryness, for by this means the potash is made to act upon any copper that may be present as an adulteration. When the process has been successful, the silver presents a granulated surface of a dull lustre, and immaculate purity. The coins in circulation are beautifully cleaned by this method, and become as good reagents as any other pieces of silver. They were used in the experiments instituted by myself.

The delicacy of pure silver as a test for sulphuretted hydrogen is exceedingly great. A solution was made containing one drop of hydrosulphate of ammonia in 120,000 grs. of water. A five cent piece placed in it was discoloured in the course of a few minutes, and became of a decided light yellowish brown colour in two hours, without agitation. This is by no means the minimum which it will detect. The amount of sulphur present in the solution was determined by precipitating the whole of that substance out of a known quantity of the hydrosulphate by means of the nitrate of lead, collecting the precipitate, washing, drying and weighing it; allowing the ingredients of the sulphuret of lead to be in the ratio of their equivalents, or as 104 to 16.1, the quantity of sulphur present in a drop was found to be 1-25th of a grain. So that metallic silver, perfectly pure, is able to detect sulphur in a solution containing one part in three millions of water. As a means of determining the amount of sulphuretted hydrogen in mineral waters it is without comparison the best test, for all the addition to the weight of the silver is pure sulphur, and the metal is not acted upon by carbonic acid, which is nearly always present, and difficult to separate from the sulphuretted hydrogen.

Having learnt the delicacy of silver, it appeared to me, that by long exposure to the action of the water and air of marshes, it might become stained by sulphuretted hydrogen, if that gas existed in such places. Accordingly, a number of prepared coins were disposed in suitable positions for its detection. Three small rivers, Buffalo, Briery, and Appomattox were selected, and coins suspended in them by a stout silk thread, passed through a perforation made in them before cleaning; the stagnant water lying upon the surface of marshes, and produced by sluggish springs, was also tested in the same way, not allowing the metal to touch the soil, but suspending it from the branches of shrubs. The currents which set out from cold springs, and which are known in the country as spring branches, were also examined in the same way, at different points from their origin. In the air, over rivers and marshes, coins were exposed. The description of money used was various, five cents, ten cents, twelve and a half cents, and twenty-five cent pieces were all taken, according to the change in my possession. They were first perforated in a marked place, so as to be recognised, next cleaned and dried, then carefully weighed, furnished with a string, and lastly carried to the place selected. Great care was taken to keep the surface unsullied by the touch of the finger or otherwise. The number of pieces used was

thirty, and all the suspected places within a circle whose diameter is seven miles were examined.

In twenty-two hours after the first set of these coins were deposited, two were found distinctly stained, one in a marsh, and the other in a spring branch flowing through a marshy piece of land, and receiving constant additions of stagnant water from it. Two other coins immersed for the same time in the Buffalo river exhibited no sign of change. This great difference is worthy of remark, and points out the locality wherein the gas is generated. It was found to be a law, from repeated examination, that the shallow waters of marshes contained the most, and rivers the least amount of gas; the coins placed in the latter sometimes required a month, and those suspended in air even more time for discoloration. In all the experiments I made, the silver was ultimately stained.

The discovery of sulphuretted hydrogen in the air, is a new and important feature of these researches. In one coin placed over the Buffalo river it required five weeks to produce the sulphuret stain, but a quarter of a dollar suspended eighteen inches from the soil, in a marsh over stagnant spring water, was discoloured in a week. In every case where the gas was detected rapidly in water it was found in the air over it, in a greater or less time. This must necessarily be the case, for a solution of sulphuretted hydrogen exposed to the atmosphere must continually give off that gas, by exosmose, until the air and water contain equal quantities. Hence the gas abounds where it is generated, both in the air and water, and diminishes in quantity as the distance increases from the place of its production. That sulphuretted hydrogen exists in air must be admitted, when the discoloration of white-lead paint in cities is considered; the houses painted with it in London and Paris, become of a light dingy yellow in a few years. Plate and other silver wares lose their polish and become tarnished in houses. These changes are undoubtedly due to sulphur existing in the atmosphere of such places.

That the discoloration observed in the coins was due to the formation of a sulphuret was proved directly by the reduction of the silver. Two pieces were selected, and weighed, after an exposure of ten days. They had both acquired 2-100ths of a grain access of weight, but as their diameters were not similar, the increase was not in the ratio of their surfaces, but as 26 to 35. This was due to the difference of the places from which they had been taken, the one from a marsh, the other from a spring branch. The process adopted for the detection of sulphur on the coin, was by passing a stream of hydrogen gas, over the metal inclosed in a green glass tube, and made red hot: the effluent gas discoloured nitrate of silver in the manner of sulphuretted hydrogen.

Having proved that sulphur exists in these localities, my next object was to examine the causes of it. In the foregoing experiments, the immediate source was a marsh, containing much

decaying vegetable matter, a rich alluvial soil saturated with *spring* water, or that which had percolated through the soil, and heated by the temperature of midsummer. These four conditions are all worthy of examination.

Alluvial deposits contain much vegetable matter, their blackness is due to it in some measure. This vegetable matter is in a constant state of decay, the rapidity of which is proportional to the access of oxygen, and the warmth of the season. Such accumulations are therefore interesting, as laboratories in which powerful affinities are bringing about numerous striking changes. They form the scene of many important events worthy of close attention. Let a sulphate be brought within the reach of these powerfully deoxidizing masses, and it will be decomposed by the destruction of its acid.

The second element, of the sites in which sulphuretted hydrogen was detected by me, is decaying vegetation. The effect of this differs in no wise from the action of the organic constituents of alluvion. In its decay, carbon is left in excess, and exerts all its powerful affinities to assume the gaseous form. But vegetables contain certain inorganic constituents, which are of considerable interest in the changes under contemplation. Of these, the sulphates of lime, soda, potassa, and magnesia have been detected. In the decay of a plant containing any of these salts, the results will depend upon the presence or absence of water. If dry, they will be unchanged; but if water and heat be present, the sulphuric acid will be decomposed. The leaf contains a large proportion of the salts existing in a plant.

But of all the agents discovered in these localities, spring water is the most important. It is usually impure. It contains the soluble salts of the land through which it has percolated. These must from the nature of the case differ. Muriates, sulphates, phosphates and carbonates have been found by different analysts. Spring water is seldom free from sulphate of lime, or magnesia—the former imparts to it the quality denominated hardness. When these ingredients are present in any quantity, and the water is kept in contact with decaying vegetable matter, they are decomposed, oxygen is abstracted and sulphurets are produced—the latter in their turn yield sulphuretted hydrogen with the first nascent hydrogen they encounter. The final compound of these bases is most probably a carbonate. That sulphuretted hydrogen is thus produced, is a matter of demonstration. Prof. Daniel put decaying leaves together with water containing sulphate of soda in a jar, and subjected them to the action of a summer's heat; in three months sulphuretted hydrogen was abundantly given off, and the salts decomposed. If no sulphate be present, either in the vegetable matter or water, the gas will not be given off. Hence, to apply the result of this decisive experiment to our purpose, no locality, the soil of which is destitute of the sulphates, can generate the deleterious gas.

Thus we have reached a generalisation which is indisputable, and of the greatest practical importance. For it affords the means of discriminating, even in the most unpromising situations, between a healthy and an insalubrious site.

To ascertain the presence of sulphates, the addition of a few drops of a solution of chloride of barium is all that is necessary. If the cloudy precipitate that falls is unsatisfactory, boil the spring water until it is evaporated to a small compass, and test again. If a sulphate be present, the white, dense sulphate of baryta will fall, a salt that cannot be mistaken from its utter insolubility. This test is so simple, that any member of the profession can decide upon the existence of sulphates, and therefore of sulphuretted hydrogen, in any place whatsoever. The test for the gas detailed in sections 4, 5, 6, is not less simple, and therefore, there are placed in his hands both the theoretical and experimental means of deciding on this grave question, at all times.

It is also a fact, no less valuable than the preceding, that the practitioner is enabled to decide, by analysis, the comparative amount of the deleterious gas in different situations. It is not extent of surface, depth of soil, geological structure, or the amount of evaporating water that concerns him, but the quantity of the sulphates. This point I have had the means of examining, during several years, in consequence of the analysis of many specimens of sulphur, and other mineral waters, from the counties of Prince Edward, Cumberland, Buckingham, Lunenburg, and Halifax in this state. Those waters, containing the greatest amount of sulphates, yielded larger quantities of sulphuretted hydrogen than those which contained but little of these salts. All the specimens of sulphur water, examined by me, were from alluvial deposits. Two saline waters contained sulphate of magnesia and lime, but they were procured from rocky places, in which no vegetable matter existed. Three specimens were from alluvial situations, but contained no sulphates, and therefore no sulphuretted hydrogen gas. But few mineral waters are as rich in sulphates as the ocean. Schweitzer found in 1000 grs. of water from the British Channel, 3.7 grs. of sulphate of lime, and magnesia. Laurens 7.17 grains in the same bulk from the Mediterranean. Murray, in a wine pint, 21.6 grs. of sulphate of magnesia. Prof. Daniel, from 80 to 120 grs. of sulphuric acid in a gallon of the waters from the African coast. The sea stations are the most dangerous, when vegetable matters are present, as on alluvial coasts; but the open expanse of old ocean is without the least trace of malaria. Rivers, before they become salt by contact with the ocean, contain less saline matters than marshes, in consequence of the showers of rain water which reach them without percolating the soil and dissolving out the sulphates incorporated in it.

The temperature must be warm, for the production of these changes in the sulphates. The amount of heat necessary to commence the decomposition is unknown, and can be determined only

by experiment. It is known to be above the freezing point, for water is necessary. An elevated temperature is highly favourable, and the more elevated, so long as water remains, the more favourable it is for the production of the gas. This is an immediate consequence of chemical laws, and is further borne out by the quantities of sulphuretted hydrogen discovered in the tropical waters of Africa and China. In the same proportion, the fatality of malarious diseases increases. Temperature is, therefore, an element in our researches, not to be overlooked.

[Dr. Gardner next proves that "the character of malarious regions is similar to that of those in which sulphuretted hydrogen is generated." He brings forward the facts related by Messrs. Laird and Oldfield in their narrative of an expedition into the interior of Africa along the Niger, commented upon by Professor Daniel,* besides numerous other accounts from various expeditions and localities, as New Orleans, Charleston, South Carolina, Batavia, Smyrna, &c., &c. The facts, therefore, in favour of Dr. Gardner's fifth proposition, seem exceedingly strong, viz., that "sulphuretted hydrogen is the active agent in the production of those forms of malarious fevers met with on the sea coast, and the diseases belonging to the same class found inland."]

Sulphuretted hydrogen has been discovered on the most deadly coasts. It is produced in marshes where sulphates exist either in the vegetable matter, water, or soil. The destruction of the sources of the gas, by the exclusion of the sea, has annihilated the fatal malaria of some of the Italian marshes and given health to the pestiferous town of Viareggio.

The agents which decompose sulphuretted hydrogen are also inimical to malaria. Fire is of this number, for by means of it the gas is converted, in the open air, into sulphurious acid and water. Chlorine destroys both malaria and sulphuretted hydrogen, the latter by combining with its hydrogen and precipitating the inert element sulphur. The value of chlorine has been proved both in the American and British squadrons.

The existence of trees, by decomposing the organic compound, and appropriating its water, is calculated to destroy malaria.

Its weight, and the readiness with which water may be separated from it, preclude its rising to any altitude in the atmosphere.

It is produced in the autumnal months; because then, the amount of moisture, the coolness of the nights over the temperature of the days, and the fresh deposition of leaves, furnish the most abundant materials for the formation of the organic compound.

The poisonous effects of sulphuretted hydrogen are too well known to require comment. There is no agent, which marshes

* See Retrospect, Vol. IV., Art. 112.

evolve, that is so destructive to life. Messrs. Thenard and Dupuytren killed birds in an atmosphere containing 1-1590th part of the gas. Nysten found that it was absorbed at once by the blood. Two or three cubic inches caused immediate death when injected into a vein, the cavity of the chest, or the cellular tissue of a dog. The same authority, with Lebküchner, and Chaussier found that it was absorbed through the healthy skin, and produced dangerous effects. The gas is a narcotic poison, prostrating the nervous system, and destroying muscular energy. In small quantities it produces colic, and internal congestions.

Liebig states, that sulphuretted hydrogen produces immediate decomposition of the blood.

American Journal of Medical Science, April, 1843, *p.* 279—297.

[In opposition to these views we have the opinion of Dr. Morris Pritchett, expressed in his late work "on the African remittent fever which occurred on board the ship Wilberforce on the river Niger." In this work he denies the truth of Professor Daniel's views as expressed in that part of our retrospect just alluded to. He says:—]

In obedience to directions received from the inspector general of naval hospitals and fleets, on the Wilberforce reaching the coast of Africa, and also in proceeding up, and on our way down the Niger, the most rigid and careful investigation of the waters was instituted every hour, the tests used being sulphate of copper, nitrate of silver, solution of arsenic, ferrocyanate of potass, carbonate of lead, tartrate of antimony, and lastly, the terchloride of gold, but in no instance was the slightest trace of sulphuretted hydrogen detected. There can be no doubt, therefore, that the sulphuretted hydrogen found by Professor Daniel arose from the decomposition of the water in the course of its transmission to England from the coast of Africa; nor is it necessary to go to the mouths of the Niger and Gambia to procure water, which, after being kept five or six weeks, shall yield sulphuretted hydrogen gas abundantly; the water of the Thames may be tried with an assurance of having bye-and-bye a very satisfactory demonstration of this fact.

But even if sulphuretted hydrogen were evolved from the waters of the west coast of Africa, would this explain the fevers which there prevail? All the world knows that every chemical lecturer produces sulphuretted hydrogen gas in abundance in his lecture-room, and that its odour is sometimes disseminated for the edification of the audience, but never with the effect of inducing African fever among them. In the Wilberforce an evolution of sulphuretted hydrogen ensued to a very disagreeable extent on several occasions, in consequence of the bursting of some cases of preserved meats; but in no instance did any disease take place from this cause; when the stench was excessive, a slight faintness, followed by nausea, was complained of for a moment; but these

symptoms speedily passed off on coming into the open air, and no ulterior ill effect ensued. An occurrence of this kind took place at St. Antonio, Cape de Verds, on the 17th of June, 1841, when the heat was very intense, and the stench so intolerable as to drive every one from the immediate neighbourhood whence the canisters were removed and thrown overboard.

[Although we have here given Dr. Pritchett's views of sulphuretted hydrogen as a cause of fever, we by no means think he has overturned the facts related in Dr. Gardner's paper; neither do we think that his own opinion of the cause of this affection accords with that generally entertained. He thinks that solar influence, combined with electricity acting on the system in a hot and moist atmosphere, may be looked upon as a chief cause of the disease.]

Dublin Journal of Medical Science, Sept. 1843, *p.* 146.

[Dr. McWilliam also disagrees in opinion with Professor Daniel, and asserts that no such gas as sulphuretted hydrogen is found in the Niger, in the locality where the fever raged so fatally.]

British and Foreign Medical Review, July 1843, *p.* 263.

2.—ON THE USE OF ARSENIC IN DISEASES OF THE SKIN.

By John E. Erichsen, Esq.

[There is probably no substance in the Materia Medica about which a greater discrepancy of opinion has arisen than arsenic. By some its uses have been highly extolled and used too indiscriminately; by others it has been looked upon only as a last resource, and used when every other remedy has failed. This difference of opinion has probably arisen not only from the carelessness of diagnosis and the too indiscriminate use of the remedy, but also from using the medicine at an improper stage of the affection and in constitutions in which it ought not to have been tried. Most practitioners are now aware that arsenic may be a very improper remedy in the early stages of a cutaneous affection, and a most valuable one in the latter stages of the same disease. In this want of discrimination will probably be found to consist the whole defect which renders its use so often valueless. It too often follows that when a medical man ascertains the name and nature of the cutaneous affection, he applies a certain routine of remedies without paying sufficient attention to the stage of the disease which he is treating.]

It is to Adair and Girdlestone that we owe, at or about the commencement of the present century, the introduction of the preparations of arsenic in the treatment of the diseases of the skin, and from the extraordinary effects that they were shown to possess in removing and controlling affections of this kind, even though of many years' standing, they soon came into general

repute, being resorted to, almost as specifics, in those cases of cutaneous disease that had resisted other means of treatment, and even in such as would readily have yielded to less active measures.

The preparations of arsenic that are most commonly had recourse to in the treatment of cutaneous complaints are, the solution of the arsenite of potassa (Fowler's solution), the solution of the iodide of arsenic and mercury (Donovan's solution), the iodide of arsenic and arsenious acid in the form of pill. Besides these, the solution of the arsenite of soda (Pearson's solution) has been recommended by some, and that of the arseniate of ammonia by others, chiefly by Biett; but as these two last are not much employed, and as their qualities and mode of action seem in no way to differ from those of the arsenite of potassa, I shall omit all consideration of them.

The opinions of authors vary somewhat as to the dose in which we should commence the administration of the solution of the arsenite of potassa, and as to the extent to which we ought to carry it. Girdlestone recommends us to begin with the smallest doses, and never to increase the quantity taken beyond five or six drops three times a-day, and only to persevere in such quantities as can be taken without inconvenience to the patient. In children, he says, the dose should not exceed two or three drops once or twice a-day. The largest quantity he ever gave was twelve drops three times a-day; but he soon found that half this quantity would suffice equally well. Bateman and Thomson advise us to begin with doses of four or five drops, which may be slowly increased up to eight, twice a-day. Biett, who advocates the employment of arsenic more generally than any other writer, directs us to commence with three drops of the solution every morning before breakfast, and to augment this, every fifth or sixth day, by two or three drops, until twelve or fifteen were taken daily; more than this, he says, should not be administered, and it may be expedient to interrupt the use of the medicine, in these doses, from time to time. Rayer recommends doses of from four to five drops daily, to be gradually increased until the patient takes fifteen drops in four divided doses. Thus, then, although these authorities differ somewhat as to the precise mode in which the solution of the arsenite of potassa is to be taken, they all agree that we should not carry it beyond fifteen, or at most, eighteen drops in the course of the day. I am in the habit of beginning with two minims of the solution, equal, in quantity, to 1-60th of a grain of arsenious acid, twice a-day, and to carry it up to five, six, or seven and a half minims, equal to the 1-18th of a grain of arsenious acid, three times a-day; beyond which I believe it is never necessary to increase the dose, as I am convinced that the good effects of this remedy are to be obtained rather by small doses continued for a considerable time than by the exhibition of larger ones at longer intervals. But the smallest even of the quantities that have been mentioned are quite inad-

missible, as will be shown in a subsequent part of this paper, in individuals of an excitable temperament.

Within the last two years another preparation of arsenic has been introduced to the notice of the profession, by Mr. Donovan, of Dublin, under the name of the "Liquor Arsenici et Hydrargyri Iodidi;" for a full account of the chemical composition and medicinal effects of which I may refer my readers to the papers by Mr. Donovan in the Dublin Journal of Medical Science.* The dose of this preparation is variously stated. Dr. Kirby commences with doses of 20 minims, which he states are large enough to ensure the good effects of the remedy. Mr. Cusack recommends from 20 to 40 minims three times a-day, which may, in some cases, be pushed to a greater extent. Dr. Irvine has given as much as half a drachm three times a-day, for seventy-six days, with an intermission of only two or three days on account of head-ache and sickness. Dr. Graves administered it to the extent of half a drachm four times a-day for two months, with but two interruptions; and Sir Henry Marsh carried it, in the case of a boy twelve years of age, to the extent of half an ounce daily, in divided doses, which only produced very mild insalivation. Mr. Donovan is of opinion that it is prudent to begin with Dr. Kirby's doses; but he states that, after a time, a state of tolerance is induced, and then the medicine may be gradually increased at discretion. It has been administered to patients of all ages: thus, one of Sir H. Marsh's patients was but five years old, while both of Dr. Graves's had attained their sixtieth year, and Dr. Croker's her sixty-eighth. The composition of the liquor of the hydriodate of arsenic and mercury is, according to Mr. Donovan, as follows:—

Water, one drachm. Arsenious acid, $\frac{1}{8}$ of a grain. Peroxide of mercury, $\frac{1}{4}$ of a grain. Iodine, as hydriodic acid, about $\frac{3}{4}$ of a gr.

Thus this preparation contains exactly a quarter as much arsenious acid as enters into the constitution of Fowler's solution, differing besides in other very obvious and important respects.

The iodide of arsenic, a very useful preparation of the metal, for the introduction of which into practice the profession is indebted to Dr. A. T. Thomson, is most conveniently administered in the form of pill. The dose of this preparation should not at first exceed the twelfth of a grain twice a-day; this may gradually be increased until the patient takes the sixth, or even the fourth, of a grain three times a-day, although these doses are very rarely necessary. The iodide of arsenic is most advantageously exhibited in combination with the extract of conium, which seems to sheathe its irritating qualities, and prevents it from exciting too powerfully the mucous membrane of the stomach. By the addition of biniodide of mercury, a compound pill may be formed, which resembles, in its effects, the liquor of the hydriodate of arsenic and mercury, and has been much and successfully employed by Dr. A. T. Thomson in the treatment of lupus and other diseases

* See Retrospect, Vol. II., Art. 82, and Vol. IV., Art. 51.

of the skin, and which I have found of particular service in some syphilitic eruptions, more particularly of a squamous kind. Of its use in these affections I had an interesting example last autumn, in the person of a country gentleman, the brother-in-law of a physician in this town, who had laboured under syphilitic psoriasis of the legs, the right one more particularly, for between five and six years; and who, in less than four weeks, got perfectly well under the use of a pill containing one-twelfth of a grain of the iodide of arsenic, one-sixth of a grain of the biniodide of mercury, and two grains of the extract of conium, twice a-day; the iodide of arsenic being gradually increased to one-sixth of a grain, and the biniodide of mercury omitted at the end of a fortnight, as it began to affect the gums. The diluted biniodide of mercury ointment was at the same time employed externally.

The arsenious acid, in an uncombined state, is but very seldom employed in this country, although with Biett, and some other continental physicians, it is a favourite remedy in psoriasis inveterata, and other very obstinate cutaneous affections. Its dose, in the form of the 'Asiatic pill,' varies from the sixteenth up to the fourth of a grain twice a day. The comparatively large quantity of arsenious acid that is required in an uncombined state to produce a beneficial action on the skin, ought, in my opinion, to militate against its employment in this form. The minimum dose of arsenious acid recommended by most writers on the diseases of the skin is one-sixteenth of a grain; now this is equal to the quantity contained in seven and a half minims, almost the maximum dose, of the solution of the arsenite of potassa, and certainly too large a quantity of this preparation for us to be justified in commencing with. This difference in effect is probably owing to the greater readiness with which the arsenious acid, when presented in solution, must be taken up by any surface, and carried into the general circulation.

Mr. Donovan lays great stress upon the small quantity of arsenic, and of the other elements, that, in his preparation, sometimes effect a cure; but in this I do not think it presents any thing peculiar, or more remarkable, than is constantly seen in Fowler's solution, and the other preparations of arsenic.

The *modus operandi* of the arsenical preparation, as of most other medicinal agents, is unknown to us. We are only acquainted with their secondary effects, which manifest themselves most unequivocally on the digestive, nervous, and integumentary systems; on all of which they act as excitant or stimulating tonics. When arsenic is being given in medicinal doses, one of the earliest constitutional symptoms produced by it is an acceleration of the heart's action: this, as Dr. Duffin has remarked, and as I have had occasion to observe, sometimes becomes quickened in the course of a few days after the administration of the mineral has been commenced, by ten, twenty, and even thirty beats in the minute, the pulse acquiring at the same time a hard and some-

what wiry feel. This acceleration of the pulse is particularly observable in individuals of sanguineous or sanguineo-nervous temperament, in whom the heart's action is readily excited under the influence of physical exertion, or of mental emotion. In some cases before, but in most after this increase in the rapidity of the heart's action, evidences of some degree of irritation about the mucous membrane of the stomach will manifest themselves; there will be more or less thirst; the tongue will become coated towards the centre and root, with red sides and tip; there will be loss of appetite and a sense of weight at the epigastrium; the patient, about the same time, will complain of heaviness and pricking sensations about the eyelids, with flashes of light before the eyes when they are closed, and after a time the eyelids will become puffed and droop, giving the countenance a peculiarly melancholy and care-worn appearance; there will also be more or less headache experienced, chiefly over the eye-brows and lower part of the forehead: this pain in the head is, indeed, very frequently, one of the first symptoms indicative of the medicine disagreeing with the system. The patient will also very commonly complain of confused and horrible dreams: this is more particularly the case with children, in whom, as the nervous system is very excitable, there is a natural tendency to irritation and disturbance of it. Girdlestone has remarked that in some cases the skin assumes a uniform lobster-red colour, that erysipelas comes on, or that phlyctenæ and pustules make their appearance when the arsenic disagrees. I have very frequently had occasion to observe that the disease of the skin for which the medicine may have been administered, more particularly if it be a case of chronic eczema, has evinced a decided tendency to increased action; the patches becoming red and irritable, showing that the integuments partake in the excitement that is induced in the system generally by the employment of these preparations. If the use of the arsenic be still persevered in, which, after one or more of the symptoms which have just been detailed have manifested themselves, should never under any circumstances be the case, we shall find that great irritation will supervene about the mucous membrane of the stomach and throat; there will be nausea, vomiting, and total loss of appetite; the headache will increase in severity; the urine will become high-coloured; the countenance, which has become pale and sallow, will assume a remarkably sorrowful and anxious cast; tremors of the limbs come on, with an occasional feeling of faintness, and the foundation of incurable and permanent disease may be laid in the digestive organs or nervous system. It must not, however, be expected that all these symptoms should show themselves in every case in which the remedy has been pushed beyond its utmost limits as a medicine; far from it: in some instances the first symptom that we notice indicative of the medicine having begun to disagree, and of its employment having reached those bounds beyond which it cannot with safety be

carried, is a degree of thirst, and a feeling of oppression about the epigastrium; in others, pricking sensations about the eyelids and flashes of light before the eyes; in others, again, and this very commonly, headache with disturbed dreams: and usually antecedent to, or, at all events, coincident with any one of these symptoms, will be found an acceleration in the pulse. The occurrence of any of these symptoms should be an instant warning to the practitioner to diminish the dose of the arsenic, or to intermit the use of the remedy altogether. If the patient be of a lymphatic temperament, or is somewhat advanced in years, of a languid, debilitated habit of body, and the symptoms of excitement, local or general, be but trifling, it would be sufficient to diminish the dose to one-half of that which is being taken, and to watch carefully the effects of the reduction before taking away the remainder. If, however, the patient be of a sanguine or sanguineo-nervous temperament, if he has been taking the arsenic for a considerable length of time, and if the symptoms of local disturbance be very unequivocal, it will be more prudent to leave off the use of the medicine for a few days, to give some saline aperient, and then, if it be thought expedient to do so, to recommence it in smaller doses. In practice it often becomes a question of considerable importance as to how far the preparations of arsenic may be carried; for this it is impossible to lay down any fixed rule as to quantity or time, as these must necessarily vary very greatly in individual cases, and our only guide in these respects must be the symptoms of local or constitutional disturbance that they may occasion. From a careful examination of many cases of cutaneous disease in which this mineral had been employed, I am enabled to state that nothing is gained by carrying it beyond a certain point, as far as the affection of the skin is concerned, and that by so doing, much mischief, perhaps of an irremediable nature, may be inflicted on the patient; that it is not a remedy that can with safety be *pushed*, to use a common phrase, but that all the good that will result from its employment can be accomplished by a careful and guarded administration of it, and by its being intermitted on the first appearance of any symptom of local or general irritation. Any marked acceleration of the pulse, or disturbance in the functions of the stomach and nervous system, should serve as a warning to us to discontinue its use. It must also be borne in mind that arsenic is a cumulative remedy, and that its deleterious effects may suddenly be manifested at a time when we least expected it to disagree. On this account patients who are taking it should be seen by their medical attendant every second, or at most every third day, and should have directions given them to omit the medicine should any of the symptoms that have already been mentioned as indicative of its disagreeing with the habit, show themselves. In illustration of the bad effects that may result from the injudicious use of the preparations of arsenic, I may mention that I have at present under my observation a young

lady, of a highly nervous temperament, but otherwise perfectly healthy, and without any hereditary disposition to disease, who, whilst suffering from an attack of psoriasis of the legs some years ago, was advised to take Fowler's solution, which she did in the hope of speedily getting rid of, to a delicate female, a disgusting affection, to such an extent, without the knowledge, however, of the medical attendants, that she brought on extensive derangement of the stomach, which was followed by a violent neuralgic attack, together with, at a subsequent period, a distressing train of hysterical symptoms, which have terminated in a state of dementia, that, having now existed for nearly four years, may almost be looked upon as incurable.

The circumstances that contraindicate the employment of the arsenical preparations are divisible into three classes:—

1st. Those that relate to the temparament and habit of body of the patient.

2d. The complication of the cutaneous affection with other diseases.

3d. The nature, stage, and condition of the disease of the skin itself.

[Mr. Erichsen lays great stress upon the necessity of attending particularly to the constitution and temperament of the patient before commencing the use of the medicine. It will be badly borne by individuals of a plethoric habit of body, or of a highly sanguine, or sanguineo-nervous temperament—this arises from the stimulating properties of the metal. In such cases the digestive organs become so irritated, and the nervous system so excited, under the use of the arsenic, that it is impossible to employ it in any such dose as can be expected to produce a beneficial effect upon the cutaneous affection. There are other circumstances which contraindicate the use of this remedy, namely, "the complication of the cutaneous affection with other diseases," and especially with irritative or inflammatory gastric dyspepsia, accompanied with a sensation of heat and oppression at the epigastrium, increased by food, so well described by Dr. Todd. When this form of dyspepsia is present, the smallest doses of arsenic will do harm, as the usual effect of the remedy, when continued too long, is to produce these very symptoms. Besides this form of indigestion, any other local inflammatory condition of the system, or the supervention of phthisis, will contraindicate the use of so powerfully stimulating a tonic as arsenic.

Another important circumstance to attend to is the kind of disease, and the stage in which to use it. With regard to the stage of the disease, it may be stated that generally it is only in the chronic form that it can safely be used. Most cutaneous affections are at first inflammatory, and during this state it would be highly improper to prescribe arsenic.]

But the question naturally arises, how is the period at which arsenic is admissible to be ascertained? It cannot certainly be a

matter of time, for in one case the same disease may be in a more active, inflammatory condition at the end of months, or even years, than it will in another at the expiration of but a few days or weeks. In answer to this I may state, that I think it will usually be found, with sufficiently few exceptions indeed to make it a general rule, that the administration of arsenic is contra indicated in all those cases of cutaneous disease in which topical stimulants of a mild nature, such as the ointment of the white precipitate, or of the nitrate of mercury diluted with equal parts of the spermaceti ointment, or a solution of the sulphuret of potassium in the proportion of about a drachm to the pint, increase permanently the severity of the affection. I do not mean to imply by this that the reverse holds good, viz., that a disease in which external stimulants are employed with success should necessarily benefit by the administration of arsenicals; far from it; but I cannot recal to mind a single case that has improved under the use of this mineral that did not bear the employment of gently stimulating ointments or lotions, provided always that the disease did not occur in a person of a very highly excitable or irritable temperament, or in one labouring under irritation of the gastric mucous membrane, or other such decidedly contra indicating affection.

In confirmation of this I may adduce as an example that very common disease eczema, which, when in its acute stage, in which it could bear no other topical applications than the most soothing poultices and fomentations, would infallibly be greatly increased in severity by the employment of arsenic even in its most minute doses, will, at a more advanced period, when it has fallen into a passive condition, improve under the use of the mineral, at the same time that it receives the most decided benefit from the application of topical excitants, such as the white precipitate or nitrate of mercury ointments, and sulphureous baths or washes. And this is nothing more than we should *a priori* expect; for if, as I think there can be no doubt, arsenic acts as an excitant to the integumentary system, amongst the other tissues and organs, stimulating in a peculiar way the cutaneous capillaries, we cannot suppose this stimulus to be beneficial from within, unless it also is so from without.

The circumstances, then, under which the employment of arsenic in cutaneous diseases is contra indicated having been pointed out, we shall easily arrive at a knowledge of those cases in which its administration is likely to be attended by beneficial results. It has already been shown, that the use of the preparations of this metal is exceedingly hazardous in individuals of a sanguine or sanguineo-nervous temperament and excitable habit of body, or in those who suffer from, or are peculiarly disposed to, irritative gastric dyspepsia, or any inflammatory disorder. On the other hand, they are in most cases borne well by individuals of a somewhat phlegmatic, debilitated, or lax habit of body, more

particularly if they are past the middle age, with a pale cachectic complexion, languid, weak circulation, and a general want of tone about the system, acting upon such patients as powerful and useful tonics. In persons of this habit of body the diseases of the skin appear rather to be dependent upon a degree of debility or want of power in the cutaneous capillaries; and it is in these patients that the preparations of arsenic are of great service, in exciting in a peculiar manner, a more healthy action in this class of vessels, thereby modifying or removing those morbid changes that are the results of an abnormal condition in their secernent and nutrient functions.

The diseases of the skin that are likely to be benefited by the employment of the arsenical preparations belong to very different orders in all classifications of these affections; but however widely they may be separated by artificial arrangement, they all agree in this one important respect, that they are characterized by the presence of scales or scurf; that even when they do not belong to the order *Squamæ*, they are usually but little benefited until they arrive at that stage in which they assume a furfuraceous or scaly condition, in which state the boundary line between them and the real squamous diseases is, in very many cases, but very faintly marked. Thus, in the earlier stages of eczema, for example, arsenic is, in any form, decidedly useless, if not positively injurious; but when once this disease has fallen into that condition in which there is no longer any distinct evolution of vesicles, but, in their place, a serous fluid, which exudes at times, and dries rapidly into thin furfuraceous scales or laminæ, the subjacent skin being red, glazed, dry, and more or less fissured and cracked, the use of these remedies will often be productive of the most decidedly beneficial results.

Medical Gazette, May 12, 1843, *p.* 238.

Among the exanthemata there appears to be but one affection that can ever require the exhibition of arsenic; this is *urticaria tuberosa*, a rare disease, and one that I have never had an opportunity of observing. Cazenave, however, relates a case as occurring under Biett, in which it became necessary to have recourse to Fowler's solution.

The only papular disease that ever necessitates the administration of arsenic is *lichen* in its most chronic and rebellious forms. In very obstinate cases of this affection, especially in those varieties of *lichen circumscriptus* that are confined to the face or to the margin of the anus, and the genital organs, in which the skin becomes red, excoriated, chapped, and furfuraceous; or in the chronic confluent form of the eruption, when the whole of the body is covered by papulæ, capped with thin flimsy scales, having a close resemblance to pityriasis, the irritation and consequent insomnia being most distressing, it may become necessary to exhibit one or other of the preparations of this mineral. Biett

was in the habit of ordering the 'Asiatic Pills,' one a day for a month or more. Rayer recommends either Pearson's or Fowler's solutions, due attention being paid to those circumstances that have already been spoken of as contra indicating their employment. I would give the preference to Fowler's solution, as it is a milder preparation than the arsenious acid. It should be borne in mind, however, that these remedies are only admissible in those cases of *lichen* in which all other means of cure have failed, and in which the patients are worn out by the irritation and restlessness that are the usual consequences of this disease in its more severe and intractable forms. In proof of the value of Fowler's solution in very obstinate and chronic forms of *lichen*, I may mention the case of a girl named Mary Ann Dockett, nine years of age, with delicate complexion, and dark hair and eyes, who lately came under my care for confluent lichen of the whole of the body, with the exception of the face, part of the chest, the palms of the hands, and soles of the feet. The whole of the rest of the surface was studded with an immense multitude of papulæ, somewhat resembling, but more closely set than, those which occcur in the cutis anserina: these papulæ, which were particularly distinct about the outer sides of the thighs, arms, and back, were covered with exceedingly minute, flimsy, whitish scabs, giving the skin a powdery appearance. The head was very scurfy, and the hair crisp and dry. At times there was considerable irritation in the skin, which became reddened and cracked, more particularly about the bends of the arms and knees. The mother states that the child has been affected from birth, and that the disease is hereditary on the father's side. As various remedial measures had been resorted to, but without success, and as the child's health appeared to have suffered from the effects of the disease, I determined to have recourse to the solution of the arsenite of potassa. She was accordingly ordered to take one minim of the solution twice a day, to have the whole of the affected parts well anointed every night with a mixture of sweet oil and spermaceti ointment, and to take a bran bath in the morning. After having continued the treatment very little more than a month, during which time she was only obliged to discontinue the arsenic, the dose of which had not been increased, once, and that for a space of four days, the skin had recovered its natural smoothness, which has ever since been preserved by the use of the unction and warm bath.

The only disease amongst the vesiculæ that can ever necessitate the employment of arsenic is *chronic eczema*. This is more particularly the case when this affection, as has already been stated, has assumed a furfuraceous or scaly condition, closely resembling some forms of psoriasis, or pityriasis, and indeed in some instances, as Biett has shown, actually passing into these diseases; the scales becoming dry, laminated, and of a whitish, greyish, or yellowish-grey colour; the subjacent skin being red.

thickened, cracked and inflamed; the vesicular element, however, reappearing in the progress towards a cure. However obstinate this form of the disease may usually be, it becomes particularly intractable when affecting certain regions of the body, as the scrotum, labia, and inside of the thighs, and will, when of old standing in these situations, seldom yield to any remedy but arsenic. The following is a case in point:—

Mr. W. B. æt. 49, of relaxed, debilitated habit of body, applied to me in October last, for a disease of the scrotum, thighs, and breast, under which he had been labouring between four and five years. He ascribed his complaint to his having drunk some porter when over-heated, soon after which act of imprudence he experienced considerable irritation about the scrotum and thighs, on which parts a vesicular eruption made its appearance; this was followed by a scaly condition of the parts, and the affection, after a time, spread to other parts of the body, as the arms and chest. He has been subjected to a variety of treatment, and has been salivated twice, but without deriving any benefit. When he applied to me, the scrotum and inner aspect of the thighs were covered by a number of thin, flimsy, yellowish-grey scabs, from under and between which an occasional exudation of a serous fluid took place; the subjacent skin was red, inflamed, and fissured, and there were several patches of a similar character upon the chest, occupying a space of about the size of the hand, as well as one on the right arm. The itching and tingling in the affected parts were severe; so much so that it was with difficulty that he could keep his hands from tearing them. When I first saw him his mouth was sore from the effects of some mercurial that had been ordered by the physician who last attended him, and by whom he was sent to me. He was, therefore, in the first instance, merely directed to take some aperient medicines, and to make use of soothing applications to the affected parts. On the 4th November he was put upon a course of Fowler's solution, beginning with two and a half minims twice a-day, and increasing the quantity up to six minims three times a-day: this was continued, with two intermissions on account of constitutional disturbance, up to nearly the end of December, when the disease was entirely cured. The external applications that were had recourse to were, in the first instance, the ointment of the white precipitate, which was, as the disease became more passive in its characters, changed for that of the biniodide of mercury, diluted with four parts of spermaceti ointment.

Useful as the solution of the arsenite of potassa unquestionably is in cases similar to the preceding one, it is equally serviceable in dry chronic eczema affecting other parts of the body, as the following instance will illustrate.

Eliza Penny, æt. 16, of a lymphaticobilious temperament, came under my care on the 17th November, 1842, for a disease of both arms, under which she had laboured from the very earliest

infancy (from the age of three months). The affection in question was clearly eczematous. The diseased integument appeared thicker and rougher than natural, was covered with flimsy exfoliations of the epidermis, was exceedingly irritable, itching and tingling to an intense degree when the patient got warm, and was much fissured about the bends of the elbows and wrists. There was every now and then an exacerbation of the disease with a distinct eruption of vesicles. The patient complained much of languor and lassitude, was pale, or rather sallow in complexion, and menstruated somewhat irregularly. She was ordered the diluted mineral acids internally, with the oxide of zinc ointment to the affected parts, and the pil. aloes cum myrrhâ, to regulate the bowels and menstrual functions. Under this plan of treatment the general health improved somewhat, and the irritability of the affected skin was subdued. She was then, on the 2d January, ordered to begin the solution of the arsenite of potassa in two-minim doses; these were gradually increased to five, and subsequently to seven and a half minims, three times a-day; this she continued for a space of two months and a half, until the middle of March, without being obliged to intermit its use for a single day, at the expiration of which period the arms had assumed a healthy appearance, the skin being smooth, soft, and supple, perfectly free from scales, and without any harshness; it was, however, owing probably to the very long time it had been diseased, of a yellowish or tawny colour, darker than that of the rest of the body. The only external applications used were, in the earlier stages, the ointment of the oxide of zinc, with occasional fomentations during the exacerbations of the disease; these were followed by the ointment of the white precipitate, and subsequently by a lotion of the sulphuret of potassium, in the proportions of a dram of the salt to a pint of water. The local disease was not only cured, but the general health very decidedly improved by the administration of the arsenic; the patient having gained flesh and strength, acquired a good colour, and declared herself to be in better health than she had ever enjoyed.

It is but seldom that we meet with cases of the pustular diseases that require the administration of arsenic. Biett and Rayer, however, both state that they have occasionally found it necessary to have recourse to this remedy in some very chronic and rebellious forms of *impetigo*. Gibert relates two cases of *impetigo* of the face which had existed from infancy, and which Biett cured by means of Pearson's solution, after many other plans of treatment had been employed without success. These cases are nevertheless very rare, but when they do occur it will be requisite to attend to those different circumstances that have already been mentioned as indicating, or contra indicating, the exhibition of this metal.

Useful, however, as arsenic may be in many diseases of the skin, it is in the treatment of the squamous affections, more par-

ticularly of long-standing cases of *lepra* and of inveterate *psoriasis*, that it is incontestibly of the greatest service. For it is by no means rare to meet with cases of these diseases, which obstinately resisting, perhaps for years, milder methods of treatment, will in the course of a few weeks yield to the judicious employment of the preparations of this metal, the utility of which in this class of affections is so fully established by most dermatologists that it is almost needless to insist upon it. It was, indeed, the success that attended the employment of arsenic in the squamous diseases that first led to its introduction into practice as a most valuable remedy in other affections of the skin. But, notwithstanding its utility in this class of diseases (the squamous), it is not admissible in every stage of their progress, nor indeed is it required in the great majority of these cases; far from it: it is only in very extensive and obstinately rebellious forms of these complaints, or when the patient is suffering some very positive inconvenience from the disease, that we should be justified in administering it, and then only in the absence of those circumstances that have already been pointed out as contra indicating the administration of arsenic in other affections.

With regard to the stage of *lepra* and *psoriasis* in which the preparations of this metal may be administered, it should be laid down as a rule that they should not be given until the disease had assumed a decidedly chronic, inactive character. So long, indeed, as there is any inflammatory redness, heat, or irritation about the patches, they should never, under any circumstances, be employed, as the stimulus of the arsenic would almost infallibly augment the severity of the disease; besides, during the earlier periods of the complaint, we should probably be able to effect a cure by other and less heroic measures. It is only, then, in very long standing cases of an extensive and indolent squamous disease, in which all other means of treatment that are likely to benefit have been employed without success, that these remedies should be given. And even then, as Rayer justly remarks, as these diseases frequently exert no evident ill effects on the constitution, the inconvenience they occasion being but very trifling, it will be advisable to confine the treatment to a palliative one, unless the patient positively insist on some active measures being adopted, when we should not hesitate to have recourse to the employment of the arsenicals, due attention being paid to the temperament of the individual, and to the state of his digestive organs.

In the majority of cases of lepra or psoriasis, Fowler's solution will, I think, be found the most useful preparation of arsenic that we can employ. The liquor of the hydriodate of arsenic and mercury has been very successfully exhibited in cases of this description, as has also the iodide of arsenic, either alone, or, if the disease be of a syphilitic nature, in combination with the biniodide of mercury and extract of conium. Instances illustra-

ive of the value of these preparations have been adduced in a former part of this paper. The "Asiatic pills" were strongly recommended, and, according to Cazenave and Schedel, employed by Biett with advantage, in cases of psoriasis inveterata: they are, however, open to the objection of being less manageable than the other preparations of arsenic.

When these remedies are about to exercise a beneficial influence in cases of lepra and psoriasis, it will be observed that an increased action appears to take place in the diseased cutis, which becomes red, inflamed, and irritable; the scaly patches then appear to heal up, either from the centre or the circumference, according to the nature of the affection, whether it be lepra or psoriasis, and eventually fall off, leaving the subjacent skin red, smooth, shining, and covered by thin epidermic exfoliations, which may usually be readily cleared off by stimulating topical applications, such as the ointments of tar, or of the nitrate or the biniodide of mercury; after which nothing but a red stain will be left in the site of the squamous patch. And this will soon disappear if the remedies be persevered in, which they should always be, until this blotch is entirely and effectually removed; for, until this be accomplished, the disease will be very liable to return; indeed, it is from a want of due attention to this very important circumstance, that the arsenical preparations have been so often accused of effecting merely temporary cures. We must not be content with removing the scales merely, which are secondary phenomena, but we must get rid of the primary lesion, that peculiar inflammatory or congested state of the blood-vessels of the cutis, which, by giving rise to an increased and morbid secretion of the epidermis, is the proximate cause of the scaly diseases.

From amongst many cases of squamous disease in which I have seen the preparations of arsenic employed with advantage, I shall only mention one, which is remarkable for the very short time in which an hereditary affection of thirteen years' standing yielded to the administration of Fowler's solution.

Sarah Partons, ætat. 20, of lymphatico-sanguine temperament, being stout, rather pale, with gray eyes and light brown hair, came under my care on the 12th January, for psoriasis of the legs arms, knees, and elbows, of thirteen years' standing. Her father and brother (who is now under my care) labour under the same disease. There are a number of patches of psoriasis, varying from the size of a sixpence to that of a crown piece, about both legs and arms, and a few on the back. Immediately below the left knee there is one as large as the palm of the hand, and the joints of both elbows, but more particularly the left one, are covered by thick scaly incrustations, extending some way down the posterior aspect of the fore arm. The diseased patches were in a very indolent condition, there being no inflamed areola about them, and being unattended by any tingling or itching. The

general health was good, and there were no dyspeptic symptoms of any kind. As the disease was of such long standing it had been subjected to a great variety of treatment, and she had been a patient at two of the metropolitan hospitals, at one for a period of eight months, without receiving any benefit. I therefore, as she was very anxious for a cure, determined to try at once the effect of arsenic, and accordingly ordered her two and a half minims of the solution of the arsenite of potassa twice a day; the biniodide of mercury ointment diluted with three parts of ung. cetacei, to be rubbed into the diseased patches night and morning. The quantity of the solution of the arsenite of potassa was gradually increased until the 27th, when she was taking seven and a half minims three times a-day. By this time the diseased patches on the arms, and some of those on the legs, had been cleared of their scales; the affected skin was, however, redder than natural, and rapidly covered itself with scales of epidermis if the use of the ointment was interrupted. On the 28th some constitutional derangement, as headache, lassitude, pain in the eyes, and thirst, came on: the solution was accordingly discontinued. On the 4th February it was resumed in doses of five minims three times a day, which quantity was continued without any disturbance, either local or constitutional, until the 10th March, when, as the disease appeared to be entirely cured, with the exception of a red stain as it were, of the skin in the site of the affected patches, the dose of the solution was diminished to three minims, which quantity was continued, in order to prevent a relapse, until the end of the month. The ointment of the biniodide of mercury had been persevered in during the whole of this time, its strength having been increased to equal parts of the ointment of the Pharmacopœia and of spermaceti cerate.

It may, then, be concluded, from what has been stated in the preceding pages, that the administration of such powerfully stimulating tonics as the preparations of arsenic should be guided by the same rules that govern the exhibition of this class of remedies generally. We should avoid using them, not only in certain kinds of diseases, but in any affection so long as there is any inflammatory action of an active nature going on about it; in persons of a plethoric habit of body, or of a sanguine or sanguineo-nervous temperament; and more particularly in those in whom there exists any irritation about the gastric mucous membrane, or any other inflammatory disease; and only administer them when the cutaneous affection occurs in an individual of a relaxed, debilitated, or lymphatic habit of body, when it has fallen into an indolent, passive state; and, more particularly, if it be a squamous disease, or if it have assumed a furfuraceous aspect, and can bear, without being permanently irritated, the application of a mild topical stimulant. If the administration of arsenic be regulated with a due regard to these circumstances, the doses being slowly and gradually increased, there is no reason why

ts exhibition should be attended with worse consequences than hat of antimony, mercury, strychnia, or of any other very active remedy which we are in the daily habit of prescribing without any fear as to the effects that it may produce upon the system. There can be no question, however, that very injurious effects have resulted from the injudicious administration of the preparations of arsenic in too large doses. but the consequences of the abuse of any medicine are not fair arguments against its careful and guarded administration; and I feel convinced that arsenic may be exhibited with as much safety as any other powerful tonic in the Pharmacopœia, provided due discrimination be shown in selecting the cases to which it is to be given. And it is by regarding the preparations of this metal in the light of *specifics* to be resorted to indiscriminately in the treatment of every obstinate and rebellious affection of the skin, without attention to the nature, stage, and complications of the disease, or to the habit of body and temperament of the individual in whom it occurs, that much mischief has resulted from, and opprobrium been cast upon a very valuable remedy.

Medical Gazette, May 19, 1843, *p.* 241.

3.—TREATMENT OF FEVER, HOOPING-COUGH, RHEUMATISM, NEURALGIA, AND CHLOROSIS.

By Charles Cowan, M.D., F. & P., Physician to the Royal Berkshire Hospital, &c.

The reader will find in these valuable and practical reports of private medical practice, by Dr. Cowan, a large mass of very valuable information on different cases which may come before him in daily practice. We have been particularly pleased with their practical nature, a feature in reporting cases which is but too seldom met with. In his reports of fever cases, Dr. Cowan has not said much respecting his own practice, as the type of fevers in his own neighbourhood of Reading has seldom been found severe; but he has taken pains to collect the experience of others, [which is as follows:—]

We shall now briefly advert to the experience of others in the treatment of fever, selecting that which may not have sufficiently attracted the student's attention. A surgeon in extensive practice has found the following powder very advantageous in 140 cases of simple fever, continuing its use until the gums were slightly affected:—

℞ Nitrate of potash, four grains; tartrate of potash, a quarter of a grain; mercury with chalk, five grains. Mix. Repeated every four hours.

And in all fevers of a low type he was convinced of the benefit of the saline treatment. His formula was—

Chloride of soda, three drachms; carbonate of soda, two drachms; hydrochloric acid, half a drachm; camphor mixture, six ounces. Mix. Half an ounce every hour.

He founded his experience upon notes of 120 cases.

In reference to the use of mercury, Dr. Macartney says, "In no single instance have I known mercury fail in arresting the progress of fever, provided it be not combined with visceral affections or characterised from the beginning with great prostration of strength."

Mr. R. Stevens (Lancet, 25th June, 1842) asserts the value of mercury in all contagious diseases, and he has met with more than ordinary success since employing it in the treatment of fever.

Dr. Elliotson, and many other writers, speak favorably of the mild use of mercury in this disease; and when the type was inflammatory it might, perhaps, be always judiciously prescribed.

Mr. George Ross, of Enfield (*vide* "Lancet," March 4, 11, and 18, 1843), in some very interesting and able observations on fever, well worthy of careful perusal, strongly recommends the employment of ipecacuanha emetics, followed by fifteen to thirty grains of calomel, and an equal quantity of jalap, four hours afterwards. This is repeated on the recurrence of exacerbation of the symptoms, which assume in almost every case a quartan type, two or three times, and neither excites excessive purging or any inconvenient constitutional disturbance. The quantity of calomel necessary seldom exceeds a drachm; the effect is quickly beneficial, the convalescence rapid, and the duration of the complaint curtailed. He objects to repeated small doses of mercury, as more distressing to the patient, more likely to excite intestinal irritation, and much less successful in the result. He thinks well, though less favorably, of the saline treatment, and in intractable cases would administer the nitrate of potass in doses of ten to twenty grains three times a-day. We again refer the reader to Mr. Ross's excellent paper.

In the "Lancet" for December 14, 1839, some very interesting results on the use of salines are given by Dr. Jordan Lynch. He practised in the worst districts of London, and states that his success, after employing the following treatment, exceeded his most sanguine expectations. After premising an emetic, and a brisk purge of calomel and rhubarb, or jalap, he gave a solution of three drachms of common salt to the pint of water in the twenty-four hours, the patient drinking largely of cold spring water, adding to the mixture a drachm of muriatic acid as the symptoms improved; with effervescing soda powders till convalescence was complete; supporting the strength with beef-tea and porter. The acid effectually checked the diarrhœa. Out of 97 cases not one died, and recovery, he says, took place in as many days as it required weeks on the ordinary plan.

Dr. Copland, in his elaborate article "Fever," par. 596, says, "The chloride of soda is a valuable medicine in all the typhoid forms of fever when judiciously prescribed;" and Chomel, who gave it an extensive trial, states that it has proved more successful in low fevers than any other means when perseveringly employed. Drs. Graves and Stokes also think highly of it in petechial fever.

Dr. Wilson, of the Middlesex Hospital, adopted Dr. Stevens' saline treatment, with great advantage, during the prevalence of petechial fever in 1837. The patients were all put into a warm bath and washed with soap, the head shaved, and cold applied if necessary. The following powder was given in water every four hours:—

Carbonate of soda, half a drachm; chloride of sodium, one scruple; chlorate of potass, six grains. Mix.

If this were refused, a drachm of the chlorate of potash in a quart of water was given for drink in the twenty-four hours. In some severe typhoid cases, where active treatment was inadmissible, in addition to wine and beef-tea, Dr. Graves gave carbonate of soda, one scruple; nitrate of potash, ten grains; every three hours, with great success.

Dr. Furnival, in his work on consumption and scrofula, says, "In the middle or even later periods of typhus, I must bear testimony to the great efficacy of large doses of the sesquicarbonate of soda alone, every four hours, either in water or some tonic effusion. It is surprising how soon the tongue will clean and the collapse give way."

Dr. Bright speaks favourably of a similar plan, and the common effervescing draughts, prescribed as simple refrigerants, may be more actively useful than the prescriber suspects.

Among the German writers there is extensive evidence in favor of the hydrochlorate of ammonia in putrid adynamic fevers, and a very general preference has been attached by writers of all classes to combinations in which chlorine plays a part. Indeed, the compound recommended by Dr. Stevens is probably resolved in the stomach into the muriates of soda and potash. The nitrate and chlorate of potass are also particularly deserving of trial.

The above practical testimonies in favor of the saline treatment of fever are more than sufficient to entitle the subject to the student's serious consideration; though the value of such treatment is practically demonstrated, the theory is not free from much painful obscurity, but some additional insight into the possible modus operandi of such remedies may be gleaned from Professor Liebig's researches on the influence of soda on the decomposition of our tissues and in the formation of bile.

If continued fever may be regarded in all instances as the result of a morbid poison in the system, either imbibed from without or generated within, and that its phenomena are functional efforts for its elimination, or disturbances kept up by the presence or reproduction of the exciting cause; in either case it is easy to

conceive how remedies of the class now alluded to might prove useful; either by facilitating the excreting act where the poison is not reproduced, by stopping the fermenting process, by neutralising the morbid agent itself, or modifying the element of the blood which is essential for its continued transmutation. There can be little doubt that a more accurate knowledge of the chemical changes induced, would admit of equally accurate remedial appliance; but at present we are almost limited to empirical experiments, and more indebted to practice than to theory for our successes. Hence the importance of being acquainted with what others have beneficially tried. It is not easy to say whether the efficacy of the saline treatment depends on the base, the acid, or the salt. Considerable evidence might be adduced of the utility of mineral acids as well as salts, and the apparent contradiction in the means may be the simple result of our ignorance. The acid may be the effective agent when administered in a combined as well as a free state; and the favorable results ascribed to both may depend on their correct but empirical application to fevers of a particular type.

Dr. Paris states that in the Westminster Hospital a drachm of the muriatic acid combined as a drink has been given for many years in typhus fever with evident advantage; and in the "Lancet" of 23rd Jan., 1841, a very strong statement is made by Mr. Alqhuen, of the value of the oxymuriatic acid, when freely administered under similar circumstances. Huxham, Fordyce, Frank, Hufeland, and many others, unite in the recommendation; but both theory and practice preponderate as a general rule in favor of the preceding class.

Dr. Buzorini ("Brit. and For. Med. Rev.," Oct. 1839) thinks that ipecacuanha possesses a specific power of exciting the nervous system. It increases all the excretions, moderates the alvine discharges, diminishes restlessness and delirium. Dr. B. founds his opinion upon ten years' experience, and advises its being given in infusion in the proportion of one or two scruples of the root to five or seven ounces of water. Dose, half an ounce every two, three, or four hours. In influenza, and fevers with bronchial complication, especially in children, it might prove a very useful and cheap practice.

Frank's celebrated fever powders consisted of tartar emetic, six grains, and bitartrate of potash, half an ounce, divided into six powders, and one given every hour.

A provincial physician in extensive practice, and with keen observing powers, attributes great benefit to the following formula in all cases of severe febrile disturbance, eruptive or otherwise:—

> Liquor of the acetate of ammonia, five ounces; potassio-tartrate of antimony, six grains; syrup of poppies, or of ginger, one ounce; tincture of opium, one drachm; spirit of nitric æther, six drachms. Mix. Half an ounce every one or two hours.

It excites vomiting, and then purges and sweats.

Against headache in congestive fever the formula of Raspail has been much vaunted :—

Liquor ammoniæ, one ounce; distilled water, nine ounces; chloride of soda, five scruples; camphor, ten grains. Adding any agreeable scent.

A piece of linen to be steeped and applied over the part, carefully protecting the eyes by a thick bandage above the brows. The action is often rapid, the pain ceasing in fifteen to thirty minutes. It ought to be reapplied at the commencement of the paroxysm, and is also very valuable in other local congestive conditions. M. R. thinks there is a peculiar chemical change excited in external applications depending on the nature of the local action. Before concluding we would just allude to the use of belladonna for the relief of head symptoms with *contracted* pupil, as recommended by Dr. Graves, and to the good effects of emetic tartar and opium in cases of cerebral congestion, as stated by the same observer. Dr. Stokes' excellent observations on the indications for the use of wine in fever, being founded on an examination of the heart rather than of the pulse, are also of a truly valuable and practical character.

[Dr. Cowan's epitome of the experience of the best writers on *Hooping Cough*, and a variety of other diseases, is equally good.]

The popular and professional catalogue of remedies for hooping-cough is both lengthened and varied, proving the usually obstinate nature of the disease. It cannot, however, be doubted that particular combinations have at times been attended with more than ordinary success; and it is the part of sound wisdom to treasure up these evidences of remedial triumphs, since circumstances may arise in the practice of all, where we are baffled in the application of our general principles, and are glad to resort to more specific and empirical means. There is, no doubt, a tendency in most minds to place exaggerated reliance on particular remedies, and to attach to them results which are attributable to the natural progress of the disease; but, on the other hand, it is possible to underestimate their value, and to adhere too obstinately to imaginary principles. Success is, after all, the best test of being right, though it is often very obscurely obtained; and in the practice of our art we are frequently compelled to be content with results apart from their explanations, and to submit to failure where our theory seems most complete.

Dr. Thompson considers prussic acid his sheet-anchor, gradually increasing the dose, and combining carefully regulated temperature with a milk and vegetable diet. He says the disease seldom exists more than four to five weeks.

When the acute symptoms have subsided, the following extensively used formula of Dr. Beatty, of Dublin, recommended by Dr. Graves, has proved very useful :—

Compound tincture of bark, five ounces; tincture of lytta, tincture of camphor, of each half an ounce. Mix. A teaspoonful three times a-day in linseed or barley tea.

Above five or six years of age the dose may be increased one-third daily until half an ounce is taken.

The liquor arsenicalis, in decoction of bark, is favorably mentioned; and in the second volume of the Provincial Transactions, p. 412, a combination of the tincture of lytta with the tincture of lobelia is stated to have proved successful.

Belladonna by liniment, plasters, and internally, is undoubtedly a valuable agent. Dr. Waldeck, of Berlin ("Bul. Gen. de Ther., 1838), gave from one-tenth to one-twelfth of a grain for a dose and speaks very positively in its favour. Dr. Lombard, of Geneva (French "Lancet," 9th June, 1838), mentions as a sure symptom of the decline of the disease the greater frequency of accesses during the day than night, and *vice versâ*. He speaks highly of the sesqui-oxyde of iron in diminishing the number and violence of the fits, giving twenty-four to thirty-six grains a-day in divided doses. Dr. Steymann ("Bul. Gen. de Ther.," March, 1838) brings forward similar evidence.

Dr. Crossley Hull's great remedy in all cases was powdered alum, which he prescribed in a little water eight times a-day, beginning with ten grains, to be increased two grains each dose till twenty are reached, which was then continued till the cough had ceased, which he states was the case generally in a week or less. The above doses are for young persons about fourteen; adults may increase the dose to twenty-six grains. Infants are to begin with four or five grains, increasing two grains a dose to fifteen. No other medicine was given; milk to be avoided.

Dr. Reece strongly advises a warm irritating plaster to the chest, and the following medicine:—

Tincture of assafœtida, one drachm; tincture of opium, ten minims; powder of ipecacuanha, ten grains; water, two ounces. Mix. A teaspoonful every three hours to a child two years' old, increasing the dose ten minims for every year.

When this fails, the two following formulæ are (too) highly praised:—

Powdered leaves of conium, one scruple; mint water, two ounces; syrup, two drachms. Mix. A teaspoonful three times a-day to a child of any age, adding ten minims to the dose, till nausea and giddiness are felt.

Di-acetate of lead, four grains; syrup of poppies, two drachms; fennel water, two ounces. Two teaspoonfuls to a child from two to ten years every five hours; half an ounce for an adult.

It is said to cure generally in three days (?) There is other confirmative evidence in favor of lead in this disease, and a

formula in combination with conium is given in our report of the Reading Pathological Society for 1842.

Mr. C. H. Chavasse ("Lancet," May 30, 1840) speaks highly of the following formula:—

Sulphate of copper, half a grain; syrup of poppies, half an ounce; anise water, an ounce and a half. Mix. A teaspoonful to be taken every second or fourth hour, according to the age.

Sir William Watson's celebrated prescription was—

Tartar emetic, one grain; tincture of opium, twenty minims; distilled water, one ounce. Mix. A teaspoonful every, or every other night.

Mr. Pearson, after premising an emetic, relied much upon—

Tincture of opium, one minim; ipecacuanha wine, five drops; carbonate of soda, two grains; water, half an ounce. Make a draught, to be taken every four hours.

Dr. C. Wachtl, of Vienna (*vide* Provincial Journal, January 21, 1843) has found cochineal very useful in rapidly checking the paroxysms.

Cochineal, ten grains; bitartrate of potash, one scruple; sugar, one ounce; water, six ounces. A teaspoonful every four or six hours.

It is an old and popular remedy.

The following is Roche's far-famed embrocation:—

Olive oil, one ounce; oil of cloves, half an ounce; succinum oil, half an ounce. Mix.

We are not the advocates of one or all of the above, but think their occasional efficacy sufficiently attested to justify their use in particular cases.

Prov. Med J., May 13, 1843, *p.*124.

Rheumatism.—The hydriodate of potass was given in 52 cases, in average doses of five grains three times a-day. In no instance was either bleeding or leeching prescribed.

The action of iodine in rheumatism is, on the whole, satisfactory; in many cases it may be regarded as heroic, while in others not *a priori* distinguishable, almost negative. After examining the experience of different observers, we are inclined to suspect that we have often erred by the smallness of the dose, and think it probable that the quantity should in some cases be increased to the point of tolerance, the rheumatic element, so to speak, varying in amount and intensity in different individuals.

The value and uses of colchicum have long been recognised. Mr. L. Wigan, of Brighton ("Med. Gaz.," June 30, 1838), confidently asserts the following mode of using this remedy to be heroic, in proportion as the case is violent and recent. Eight grains of the powdered colchicum root (preserved by being kept ground to an impalpable powder with twice or thrice its weight of white sugar) are given *every hour* in water, or ginger or apple tea, until vomiting, purging, or profuse perspiration take place, or at

least till the stomach can bear no more. If nausea is felt after three or four doses, he stops a quarter of an hour, and gives brandy on sugar or soda water, when the medicine is again continued. The usual quantity supported is eight or ten doses; the maximum fourteen; the minimum five. After six or seven doses a slight nausea comes on; but by keeping quiet with something in the mouth three or four more doses might be received, when perhaps the disgust becomes unconquerable. After this there is generally sound sleep, with occasional nausea on waking. The pain ceases, but the more active effects of colchicum do not take place for some hours after the last dose, and after a few hours more is succeeded by "Elysium." The inflammation of the joints subsides, and they resume their size with miraculous rapidity. The acidity of the perspiration ceases as well as the peculiar odor. As soon as a cup of souchong tea can be obtained a sound sleep comes on, from which the patient awakes perfectly well. When enabled to do so, Mr. W. prefers giving a breakfast of bread and butter and tea only, very early in the morning, and two hours afterwards to commence the colchicum. Nothing more but tea and bread sopped in it during that day. It is well to indulge the returning appetite very sparingly on the day following, on which we may allow a small snap of devilled meat and rice with a little curry, if desired. Afterwards the patient may resume his ordinary diet as soon as his appetite indicates it. Mr. W. has never known a relapse, and strongly urges the practice. We confess to have some doubts of the safety of this plan, unless in robust subjects and in a very acute form of disease; Mr. W.'s statement is, however, very interesting, and well deserves attention. If confirmed by other practitioners, it will furnish us with a valuable means of combatting violent and acute rheumatism.

Dr. Davis ("Lancet," June 16, 1841) says that the duration of the disease, under the following plan, does not exceed a week in the majority of cases:—Bleeding from the arm to faintness, succeeded by an emetic of ipecacuanha and tartar emetic, and in five or six hours by a purge of calomel and jalap; after this he gives a scruple to half a drachm of powdered yellow bark, every three or four hours. This is similar to Haygarth's plan, and has the sanction of very varied experience.

The late and much-to-be-lamented Dr. Hope, after six years' experience upon 200 cases, gives decided preference to the following plan:—After one, or even two, full bleedings in the robust, he gave seven to ten grains of calomel, with one or two of opium at night, a draught with fifteen to twenty minims of colchicum wine, and five grains of Dover's powder in saline mixture, three times a-day. It was seldom necessary to repeat the calomel more than from two to four times, after which he continued the opium at night, with the colchicum draught and a senna laxative every morning. The patient was almost always well in a week, and able to commence his work in seven to ten days after the pains

had ceased. Ptyalism was avoided unless the heart was involved.

In chronic cases he gave five grains of calomel, and one of opium, at night, for five or six times, with the senna and colchicum draught as before. Local depletion with some form of counter-irritation were usually employed.

In the acute stage Dr. Graves principally relies on bleeding, with large doses of tartar emetic and nitre, and in less urgent cases, particularly if complicated with bronchitis, he has derived much benefit from the following mixture:—

Almond emulsion, eight ounces; vinegar of colchicum, half an ounce; acetate of morphia, one grain; nitrate of potash, half a drachm. Mix. Half an ounce every hour or every two hours.

If colchicum does not relieve in two or three days we must have recourse to mercury.

Dr. Pitschaft has for twenty years employed mercury, preferring the red precipitate, in doses of one-eighth to one quarter of a grain twice a-day, combined with opium if the system be irritable.

Dr. Christison, after premising bleeding, thinks that keeping up perspiration by frequent doses of Dover's powder for 36 to 48 hours is an admirable plan. Purging must be avoided till the sweating is over, nor is the plan so successful if commenced later than the fourth day.

Dr. Macleod advises bleeding from twelve to thirty ounces during the first week, giving three to five grains of calomel at night, and a senna purge in the morning. Opium to the extent of two grains in the twenty-four hours is often useful, and the guaiacum is recommended as the best after treatment. In lumbago Dr. M. thinks well of a brisk calomel purge once or twice a week as above, and considers half a drachm to two drachms of the compound tincture of guaiacum three times a-day, with a grain of opium at night, the best plan.

Dr. Marryatt's principal remedy against lumbago was half an ounce of the compound tincture given at bed-time, with other means adapted to promote diaphoresis.

In the "Lancet" for Nov. 16, 1839, Mr. Henry Rees says, "In all cases of acute rheumatism the diet should be strictly regulated; avoid rigidly beer, wine, spirits, and animal food. Milk, beef-tea, butter, eggs, fish, &c., are all pernicious. This theory is that the disease depends on an excess of nitrogen. In very urgent cases bleeding and mercury may be necessary, but he regards the hydriodate of potass as certain an antidote to the rheumatic diathesis as mercury is to that of syphilis. Its combination with liquor potassæ acts, he says, like a charm in rheumatic iritis.

Dr. Hughes ("Medical Gazette") never found it necessary to bleed. He gave a pill of opium and antimony at night, repeating it two or three times daily, if the pain was urgent. Calomel

was only used when the inflammatory symptoms were severe. Half a drachm of the colchicum wine, with a drachm of the sulphate of magnesia, was given three or four times a-day, producing, after two or three days, copious liquid yellow evacuations, with evident relief, when he immediately ordered decoction of bark with soda. In a few days the patient was well.

In the report of the Worcester Infirmary it is stated "that emetics of tartarised antimony, administered at the commencement, have cut short the disease in acute cases."

Mr. Horne ("Lancet," December 10, 1842) speaks very favourably of the following mixture:—

> Nitrate of potash, half an ounce; potassio-tartrate of antimony, two grains; spirits of nitric æther, one ounce; water, twelve ounces. Mix. A wineglassful three times a-day.

He also strongly recommends the external use of a strong solution of the hydriodate of potass when the joints were implicated —a hint worthy of trial. The same lotion he has found serviceable in neuralgic pains.

Dr. Brocklesby, in 1764, first directed attention to the value of nitre in large doses, giving as much as ten drachms in the day and night. Mr. W. White, in 1774, confirmed its value, carrying the maximum dose to twelve drachms. In 1833 the same practice has been revived by Messrs. Gendrin and Solon. Sixteen cases are recorded, of which the average period of treatment was eight days. The mean quantity of the salt given in one day was one ounce in three quarts of water; the total average quantity, eleven ounces. They advise commencing with two drachms and a half in a quart of fluid.

Twelve successful cases are recorded by M. Arran ("Gaz. Med.," March, 1841), where the mean dose was thirty-six grains in three pints of fluid, and the average total quantity 374 grains. The mean duration was eight days.

We suspect the above doses to be excessive, and believe M. Arran's practice the most reasonable and prudent. Such evidence is illustrative of the differences prevalent among practical men as to the necessary doses of medicine. There are enthusiastic givers as well as takers of physic.

Dr. Corrigan, in a very interesting paper in the "Dublin Journal," asserts that the treatment of rheumatism by large doses of opium shortens the duration, diminishes suffering, husbands strength, and lessens the tendency to complications. It is important that full and sufficient doses are employed, increasing them in amount and frequency, until the patient feels decided relief, and then continuing the same dose until the disease has steadily declined. The mean quantity given in twenty-four hours was from ten to twelve grains, but it often amounted to more than double. It does not affect the cerebral functions, and, as we have more than once observed, in some cases

excites diarrhœa. The average duration of treatment was nine days. The plan is not adapted to gouty subjects. Warm embrocations, with turpentine, or camphorated spirits, were employed. Against the consequent stiffness he advises frictions, with half an ounce of camphorated oil and turpentine, and a drachm of sulphur. In cases with sweating, erratic pains, and quick small pulse, the combination of quinine and opium is admirable. Other practitioners have confirmed Dr. C.'s experience; and his suggestions, though not absolutely novel, possess great practical interest.

Dr. Busse, of Berlin, in a monograph upon the subject, advocates the value of Richter's treatment both of acute and chronic rheumatism. He gives from fifteen to sixty drops every two hours of the following solution:—

Extract of aconite, four scruples; antimonial wine, three ounces two drachms. Mix.

It excites diaphoresis without distress, and relieves pain. The evidence in its favour is very strong.

Dr. J. B. Watkins, of Philadelphia ("Medical Examiner," No 33), also speaks in favour of the extract of aconite. It may be given in doses of one-fourth of a grain three times a-day, to six grains, or even more, daily.

Mr. Curtis, of Camden-town ("Medical Gazette," April 1, 1842), recommends an aconite plaster, made by evaporating four ounces of the tincture to the consistence of oil; this quantity to be spread with a brush on half a yard of adhesive plaster.

Dr. Osborne ("Dublin Journal," June 1, 1840) remarks that belladonna causes an immediate cessation of the migratory pains, without benefitting those which are fixed. The dose is one-third of a grain three times a-day, increased to one-half every three hours. Its effects seem limited to muscular pains.

Dr. Hosack ("Practice of Physic," p. 672) considers the following pill a good diaphoretic stimulant in chronic cases:—

Guaiacum, six drachms; camphor, one drachm; opium, two drachms; potassio-tartrate of antimony, one drachm. Mix. To be divided into 120 pills, two three times a-day.

Cases occur, says Dr. Watson ("Medical Gazette," July 18, 1842), which are not absolutely acute or chronic There is some fever, the joints are affected, the skin dry, thirst, the urine loaded with little deposits, and strongly *acid*. In this state alkalies are of great use. A drachm of the liquor potassæ daily for several days together, keeping the bowels free, has done more than any other treatment.

Against rheumatic headache Dr. Johnson has found no treatment so successful as the following:—Eight grains of Dover's powder and two of calomel at bed-time on alternate nights for two or three times, followed by a third part of the following mixture the next morning, to be repeated in two hours, if necessary:—

Infusion of rhubarb, three ounces; tartrate of soda, three drachms; powder of rhubarb, half a drachm; tincture of senna, half an ounce; wine of colchicum, a drachm and a half. Mix.

The same observer remarks ("Medico-Chirurgical Review," April, 1838), that many of the most stubborn cases will yield to a course of blue or Plummer's pill, taken at bed-time, and followed by a warm saline and colchicum draught in the morning. Flannel clothing, and an occasional warm bath, are valuable adjuvants.

Dr. Paris asserts, that against the muscular atony succeeding to acute disease, ammonia in large doses is the best remedy.

In a very obstinate case, characterised by severe pains, relieved by heat, and unaccompanied by much swelling, occurring in the practice of Mr. John Brady, of London, the following means proved very successful:—

Compound extract of sarsaparilla, six drachms; iodine, half a grain; hydriodate of potash, half a drachm; boiling water, six ounces. Mix. A fourth part three times a-day, with one of the subjoined pills.

Hydrochlorate of morphia, one grain; disulphate of quinine, nine grains; blue pill, ten grains; rhubarb pill, twelve grains. Divide into twelve pills.

M. Briquet has recently addressed a letter to the Academy of Medicine of Paris, stating that large doses of quinine were as successful in rheumatism as in ague. All will not coincide with M. B., and some late experience has proved that an excessive use of this agent is not without inconvenience and danger.

We shall now adduce some evidence in favour of sulphur, which entitles it to the practitioner's serious attention. It is an old but very partially employed remedy, and has now almost descended from the profession to the people.

Dr. Munk states that he employed it successfully in 300 cases. It seemed more effective when combined with the carbonate of soda, in the proportion of two drachms to an ounce of sulphur. Half an ounce of the latter was the maximum quantity in twenty-four hours.

The celebrated nostrum, well known as the "Chelsea pensioner," owes its efficacy to sulphur.

Dr. Law states that in subacute rheumatism there is no one means he has found so generally useful.

Sulphur, one ounce; bitartrate of potash, half an ounce; powder of rhubarb, two drachms; powder of guaiacum, one drachm; powder of musk, one drachm; honey, four ounces. Mix. A dessert-spoonful three times a-day.

If it purge too much, a drachm of Dover's powder to be added. Dr. Graves also praises it, and substitutes the following electuary:—

Powdered bark, one drachm; powdered guaiacum, one drachm; cream of tartar, one ounce; flour of sulphur,

half an ounce ; powdered ginger, one drachm. To be made into an electuary with syrup. A teaspoonful three times a-day.

If it purge too much, we diminish the dose; if constipation exists, we increase it. A teaspoonful of sulphur, with half the quantity of ginger, taken every morning in a glass of milk, has proved very useful. We know a lady liable to severe rheumatic pains in the scalp, who considers she can at any time cure them by a dose of sulphur at bed-time.

Professor Otto, of Copenhagen, treated four cases, three of which were chronic, with four drops every two hours of a tincture made of two drachms of the carburet of sulphur in half an ounce of rectified spirits. The same quantity, rubbed up with half an ounce of olive oil, was employed as an external embrocation.

Dr. Bardsley, in his "Hospital Reports," page 204, speaks very favourably of sulphureous fumigations in the subacute and chronic forms, citing forty cases as relieved or cured.

In chronic obstinate affections of the joints, rubbing them with castor oil every night, and wrapping the limbs in warm flannels, is extensively employed in the East, and is said to be very successful. ("Lancet," April 8, 1837.)

The external application of colchicum has been strongly recommended ("Lancet," July 29, 1837), and we have ourselves found it useful in cases where the sensibility was great, the pains diffused and recurrent, and the temperature of the part raised.

Painting the surface with the tincture of iodine has also been found useful. Equal parts of the compound camphor and soap liniments, with laudanum, is a good form of embrocation ; and in cases of severe local suffering the following ointment has succeeded in allaying pain :—

Veratria, half a drachm ; opium, one drachm ; lard, one ounce and a half. Mix.

The endermic application of morphine is also worth remembering.

On a review of the preceding rather long list of authorities and plans, it would appear that the principal remedies against rheumatism are the iodide of potassium, mercury, colchicum, opium, sulphur, and nitrate of potass, and probably the skilful employment of one or more of these would effect all in the power of our art to accomplish. It would have been easy to have multiplied our researches, and brought together a much larger amount of practical experience, but we have intentionally restricted ourselves to our own gleanings, and purposely avoided making use of the labours of professed writers upon the subject. To these the student has easy access, but perhaps he may find that his time has not been wasted in perusing our less methodised and more fugitive efforts.

Neuralgia.—The following is the formula of Rauque's celebrated liniment, and we have found it in several instances a valuable and powerful application :—

Extract of belladonna, two scruples; laurel water, two ounces; sulphuric æther, one ounce. Mix.

Let it be rubbed on the part, and a flannel moistened with it left applied.

Dr. Johnson says that steeping two or three folds of lint or rag in the liquor ammoniacæ, and enclosing them in the top of a wooden pill-box, and applying it to the skin from one to two minutes, is a very valuable means of counter-irritation, producing a crop of vesicles, and requiring no subsequent dressing.

The endermic application of morphine is very strongly recommended by Dr. A. T. Thompson in all cases where pain is the prominent symptom. Dr. T. employs the hydrochlorate, mixing one or two grains with six of sugar, and sprinkling it on the denuded blistered surface twice a-day. To affect the *general system*, the nearer it is applied to the head the better. Smaller doses may be used at first. A pustular eruption, often of some severity, usually follows, and is itself a source of relief.

Dr. Richab, of Strasburg ("Lancet," Jan. 13, 1838), attributes great good to one grain of quinine and two of common snuff, introduced into the nostril of the affected side. It has been found to act as a charm, and may at all events be safely tried. Perhaps errhines are too much forgotten in affections of the fifth pair. Frictions with the veratria ointment, or by the endermic method, are doubtless of value, and perhaps failure not unfrequently depends on their imperfect mode of application.

Dr. Churchill advises the following form of plaster:—

Carbonate of ammonia, one drachm; extract of belladonna, three drachms.

Pareira speaks favourably of the tincture of aconite rubbed in with a sponge attached to a stick, till the pain ceases. One to three drachms were used at each application. Three minims may be given internally for a dose.

Mr. Jeston ("Lancet," Sept. 29, 1832), after giving one or two doses of calomel and rhubarb, gave—

Narcotine, two grains; dilute sulphuric acid, twenty minims; infusion of roses, one ounce and a half. Every two hours during the intermission.

It frequently arrested the disease at once. The same observer advises colchicum, especially in rheumatic and intermitting pains.

Mr. Bailey, of Harwich ("Lancet," April 8, 1837), obtained much credit from the following preparation of belladonna:—Macerate for twenty days two ounces of the dried leaves in a pint of proof spirit. Dose from twenty to forty drops.

M. Valleix, in his elaborate treatise on neuralgia, in addition to flying blisters, quinine, steel, &c., states that much benefit resulted from pills composed of equal parts of henbane, valerian, and oxyde of zinc, given in increasing doses from one to thirty per day.

The hydrochlorate of ammonia, in doses of a scruple to half a

rachm, three times a-day, is recommended by the German and ome British practitioners, as of great value in cases of facial euralgia and hemicrania.

Dr. Williams recommended with relief, in a very severe case, venty to forty drops of Jeremie's Indian sedative, sold by Barlay. A pound of quicksilver laid on the affected eye in oil silk, encilling the part with Gourlard extract, equal parts of eau de ologne and sulphuric æther poured on the cheek and forehead, a laster of opium and belladonna, were also the means of tempoary relief. Butler, of 4, Cheapside, sells opium and belladonna ssues, which are said to be more powerfully sedative than the rdinary plasters. Currie powder, made into a paste with brandy, an excellent remedy for toothache, and forms the celebrated regorian paste. When purely nervous, fifteen grains of Augusura bark every four hours has often cured it in a few hours.

Dr. Handel, of Mentz, strongly recommends the following:—

Opium, half a drachm; extract of hyoscyamus, camphor, of each six grains; oil of hyoscyamus, one drachm; cazeput oil, tincture of lytta, of each eight minims. Mix.

nsert a little into the tooth as a pill, or on lint.

Dr. Baillie was very partial to three or four grains of the xtract of henbane twice or three times a-day in facial neuralgia; d Dr. Warren placed his chief reliance on small doses of blue ll and belladonna. Shaving the head, and washing it with cold ater, and the use of the cold douche for two or three minutes on ternate days, has at times succeeded. (Reece.)

In the "Bulletin Gen. de Therapeutique," it is stated that the inciple of treatment is to check or mitigate the paroxysm by a ll dose of opium and æther, given immediately before the roxysm, and to administer large and frequent doses of bark uring the remission. Ten to fifteen grains of quinine, exhibited ter the pain has ceased, will at once make an impression, and ten abridge the next paroxysm.

Many very obstinate cases were cured by giving opium until rcotism was produced. (Vide "Prov. Med. and Surg. Journ.," ne 19, 1841.) Some were bled during its continuance, and the in ceased in the majority.

Dr. Christin ("Repert. Med. Chir. del Piemonte," January and ebruary, 1838) speaks highly of the following plan:—

Acetate of morphia, one grain; distilled water, four ounces; syrup of acacia, one ounce. Mix. A tablespoonful every hour;

nen the pain is relieved, and sleep commencing, every two urs, suspending it if narcotism is induced; the patients to avoid ids during its administration. It often caused perspiration, rrhœa, and diuresis.

We think well ourselves of small and repeated doses of opium. r. Bardsley, in his Hospital Reports, relates several successful ses from the free use of morphine.

Mr. Greenhow read a paper at the meeting of the British Association at Newcastle, insisting upon the value of inducing *rapid but moderate salivation*, and relates several cases of success. It would, no doubt, prove useful in many cases where the visceral health was principally disturbed. The suggestion is worth remembering.

Dr. Burgess strongly advises ten grains of the extract of aconite made into twelve pills with liquorice powder, and one to be given every two hours, repeating it till the pain was relieved.

Croton oil has also lately been much recommended by Sir Charles Bell and Drs. Newbigging and Allnat, as possessing some specific influence on the ganglionic nerves, apart from its purgative action. Our own experience has not been so strongly in favour of the remedy as these published statements would lead one to anticipate, but our trials are not yet sufficiently multiplied to admit of safe conclusions. It has also been advised in large doses, two minims once or twice a-day, and this dose to be repeated several successive days, so as to keep up fresh purging. We have not met any cases requiring such heroic treatment.

Dr. Bennett ("Lancet," December 21, 1839) has found the iodide of potass of great use in cases of nervous headache, when the circulation was not affected.

Dr. Martinet ("Edinburgh Journal," February, 1842), particularly in cases of crural and sciatic neuralgia, advises the use of turpentine as follows :—

> White of egg, No. 1, turpentine, three drachms; syrup of peppermint, two ounces; syrup of orange, two ounces. Mix. A tablespoonful three times a-day, adding laudanum if sickness is present.

In most instances the pain has ceased in a week.

A drachm of creasote to the ounce of lard has been strongly recommended as a local application.

Magendie has found great benefit from inserting two platinum needles in the nerve, and passing the current from Clark's electro-magnetic machine, connecting the positive pole with the needle nearest the origin of the nerve. If the pain shifts, we must follow it in the affected branch.

The mode of using electro-magnetism is not without importance. We found, by experiments on a recently amputated limb, that the wires applied to the dry skin produced very little effect. If the surface was moistened the contractions increased, but less so than when the wires were inserted beneath the skin. If the current was gentle, the effects were limited to particular muscles; but if active, the whole limb was affected, the flexors predominating, without reference as to where the wires were in contact. It is evident, therefore, that connecting the wires with needles, and regulating the force of the current as we wish to act locally or generally, are essential to the full trial of electro-magnetism.

The following is Dr. Graves' neuralgic plaster :—

Powder of opium, two scruples; camphor, half a drachm; Burgundy pitch, and plaster of lead, of each as much as may be necessary. Mix.

This is enough for the largest plaster. Steep the part with warm water before applying it.

Ibid., May 20, 1843, *p.* 144.

Chlorosis.—The treatment of this affection, with scarcely an exception, consisted in the administration of the sesquioxyde of iron, in doses from half a drachm to a drachm, twice or three times a-day, with or without an equal quantity of the compound spirits of ammonia. The bowels were regulated by aloetic aperients, conjoined with the sulphate of iron, and occasionally with calomel. Gastric and head symptoms were relieved by an emetic, and local pains by warm plasters, opiate and irritant embrocations, mustard poultice, or a blister. The diet was dry and nutritious, and everything done to invigorate the general health. One great practical difficulty is to secure regularity and perseverance in taking the medicine, and the bulk of the sesquioxyde forms the principal objection to its use.

It may not be unprofitable to the student if we glance briefly at some other preparations of steel which experience has sanctioned.

The muriated tincture is a cheap, convenient, and efficient form, in doses from twenty to sixty drops twice or thrice daily, given in water, infusion of ginger, or quassia. We have principally employed it during the past year.

Dr. McDivitt, in his report of the Kent and Canterbury Hospital, is very partial to the following draught :—

Muriated tincture of iron, half a drachm; tincture of hyoscyamus, one drachm; tincture of aloes half a drachm or a drachm; infusion of quassia, ten drachms. Mix. Three times a-day.

The acid solution of the oxysulphate of iron is a still more agreeable form, and has been extensively used by the practitioners of Derbyshire and the North of England, and admits of convenient combination with the sulphates of magnesia and soda.

Mr. Dyson gives the following formula :—

Sulphate of iron, two to three drachms; nitric acid, three drachms; distilled water, one ounce and a half. Mix.

Rub the acid and salt together in a glass mortar for a quarter of an hour, then add the water gradually, and strain through paper; of this the dose is from five to twelve drops twice a-day.

The persesquinitrate of iron is an elegant form, and, like the muriate, and probably also the preceding, is well adapted for cases where the bowels are irritable, and other chronic mucous discharges are present. It is particularly recommended by Drs. Graves, Kopp, and Adam, under these circumstances. (Vide

Dr. Graves' "Clin. Med.," p. 672; also "Amer. Jour. Med. Sci.," May, 1839, p. 61.)

The lactate and citrate of iron have been recently much praised, but we have no personal experience of their value. The latter admits of convenient combination with alkalies.

The "aqua chalybeata" of Messrs. Bewly and Evans, Dublin, contains thirteen grains of the citrate to the pint, dissolved in water highly charged with carbonic acid and flavoured with orange-peel. It is highly recommended as a most grateful and refreshing chalybeate.

The acetate of iron of the Dublin Pharmacopœia, made by digesting for three days one part of the carbonate of iron in six of acetic acid, is a favourite preparation with many practitioners in Ireland. Dr. Perceval, who was much attached to it, used to prescribe it in asses' milk.

Dr. Lane, in his compendium of Materia Medica, insists on the value of giving alkalies with steel. The following powder, he says, will secure all the good effects of a chalybeate, and more certainly than in large quantities when uncombined:—

> Sesquioxyde of iron, five to ten grains; sesquicarbonate of ammonia, two to three grains; sesquicarbonate of soda, ten grains. Mix.

Dr. Ashwell has, in a "variety of cases," where the sulphate and other preparations of iron disagreed, given the subjoined powder, once or twice a-day with success:—

> Sesquioxyde of iron, eight grains; ipecacuanha, one grain; mercury with chalk, two grains. Mix.

The sulphate of iron administered in the effervescing form, with the carbonates of soda or potass, and thus reduced to the protocarbonate, is well worthy of attention.

Mr. Donovan ("Dub. Jour.," March, 1840, p. 159) recommends the protocarbonate to be given as follows, for extemporaneous use:—

> Blue sulphate of iron, in fine powder, half an ounce; calcined magnesia, two scruples; water, six ounces; tincture of quassia, two drachms. Divide into six draughts, one to be given night and morning.

The ferri carbonas saccharatum of the Edinburgh College ("Christison's Dispensatory," p. 425) is a powerful and excellent medicine. Dr. Clarke found it to surpass greatly the sesquioxyde in energy. The dose is also smaller; from five to thirty grains.

The "ferri iodidi syrupus" is deserving of adoption both as regards accuracy and elegance of prescription. A saccharine iodide, obtained by drying up the syrup, Dr. Christison considers should replace the present preparation.

We are indebted to the same source for an improved formula of the celebrated Æthiop's martis, under the name of "ferri oxydum nigrum," which has not yet been subjected to a practical trial.

It is also probable that the anhydrous sesquioxyde of iron, recommended as an antidote against arsenic, would prove a very excellent chalybeate.

There is much evidence in favour of the following pills, which are similar to Bland's antineurotic pills, forty-eight of which were considered sufficient for the cure of a chlorotic patient:—

Powder of tragacanth, six grains; mucilage of accacia, seven drops. Mix, and add powdered sulphate of iron, a drachm and a half; rub well together, and then add a drachm and a half of subcarbonate of potash. To be made into twenty pills. One to be taken night and morning.

The "ferruginous pills" of M. Vallet, reported on by M. Soubeiran, in the "Bul. Med. Gen. de Therap.," March, 1838, are essentially similar to the preceding, and less susceptible of oxydation.

Dr. Osborne has analysed the far-famed "Widow Walshe's pills," and they consist principally of a sulphate of the peroxyde of iron.

Dr. "Heberden's ink," as it was called, is composed of—

Crown bark in coarse powder, eight ounces; filings of iron, four ounces; Columba root, sliced, three ounces; cloves, bruised, two ounces. Digest for three days in boiling water sufficient ultimately to yield three quarts of mixture. Filter this, and add compound tincture of cardamoms, one pound two ounces; tincture of orange peel, two ounces. One to two ounces two or three times a-day.

It is rather a preparation of cinchona than of steel, and must be regarded as unchemical.

The steel sugar plums for children are not to be despised, as well as the steel bread before alluded to. Indeed, nothing is trifling which lightens the burden of taking physic, and which facilitates the use of therapeutic agents. The practitioner who possesses the tact of efficient and pleasant combination has many claims to public favour and support over his equally informed but less chemical neighbour.

Ibid., May 27, 1843, *p.* 165.

4.—ON PHTHISIS INDUCED BY THE INHALATION OF GRITTY AND METALLIC PARTICLES.

By G. Calvert Holland, M.D., Honorary Consulting Physician to the Sheffield General Infirmary.

[Dr. Holland has written a very able article on this subject which is deserving of the attention of the legislature itself. Thousands of individuals die of phthisis in the town of Sheffield from the inhalation of those gritty and metallic substances to which the grinders are subject; and if the legislature were to

render it imperative on the masters and workmen that some such invention as the one here described should be used, how much suffering might be avoided. The treatment of these cases might be most effectual if employed at the commencement of the disease; but our remedial measures ought more especially to be applied in order to avoid the dust altogether. Twenty years ago, many of the influential gentlemen in Sheffield, among whom we may particularly name Sir A. J. Knight, M.D, now residing in Liverpool, interested themselves on the subject, and a magnetic guard or mouth-piece was invented by Mr. J. H. Abraham, consisting of a series of magnets about the mouth, which was effectual in attracting a large quantity of metallic particles which might have entered the mouth of the grinder, but was of no avail in attracting the non-metallic gritty particles. Moreover it was found that such was the reckless and careless character of the men, that they took but little trouble to avoid an evil, the nature and danger of which they seldom cared for till it was too late.]

The knowledge of these facts suggested a plan, which is not less simple than efficient, and which the trial of years has proved to be equal to the thorough correction of the evil. A wooden funnel, from ten to twelve inches square, is placed a little above the surface of the revolving stone, on the side the farthest from the grinder, and this funnel terminates in a channel immediately under the surface of the floor; *or we may consider the channel simply as the continuation of the funnel.* in order to avoid any confusion in the explanation. The channel varies in length, according to the situation of the grinder, in reference to the point where it is most convenient to get quit of the dust. If we suppose that eight or ten grinders work in the same room, each has his own funnel and channel, *and they all terminate in one common channel, the capacity of which is perhaps twice or three times as great as each of the subordinate or branch channels.* The point where they terminate is always close to an external wall. At this point, within the general channel, a fan is placed, somewhat in form like that used in winnowing corn, and to this is attached a strap which passes upwards and over a pulley, so that whatever puts the pulley in motion, causes the fan also to revolve. The pulley is placed in connexion with the machinery which turns the stone, so that whenever the grinder adjusts his machinery to work, he necessarily sets the pulley and the fan in motion. The fan, acting at this point, whatever may be the length of any of the subordinate channels, causes a strong current to flow from the mouth of each funnel, which carries along with it all the gritty and metallic particles evolved, leaving the room in which the operations are pursued, free from any perceptible dust. When the whole apparatus is perfect and in excellent condition, the atmosphere of the place is almost as healthy as that of a drawing-room.

In one manufactory,* where the apparatus is kept in beautiful order, the dust is thoroughly removed; and in this case it is conveyed by the general channel into a trough of water, on the outside of the building. The quantity which accumulates in it, in a few weeks, is very great; and in raising it in a mass, it seems to have almost the specific gravity of metal. The expense in the construction of the apparatus, would scarcely exceed the proportion of a sovereign to each grinder. The funnel will cost only a few shillings, and the channel, if the grinder work on the ground floor, may be formed by the excavation of the earth, placing bricks over it, or it may be formed entirely of bricks. The fan and the pulley may be purchased for a mere trifle.

It is much better that the subordinate or branch channels should be *under* the floor; if *above*, which they sometimes are, and in that case made of wood, they are constantly liable to accidents. They are kicked by the foot, broken by the stones, or otherwise injured. Where they are so exposed, the object contemplated in the construction of them is, in a great measure, defeated. The dust escapes into the room, and renders the atmosphere exceedingly impure. Were the legislature to interfere, and make it imperative on the part of the proprietors of wheels, to construct such an apparatus, and compel them to keep it in a perfect condition, an immense amount of disease, suffering, and wretchedness would be prevented; and the future inquirer into the condition of grinders would not have to record the numerous premature deaths, which we shall subsequently bring under consideration. Government has interfered, and very properly, in compelling the mill-owners in the cotton districts so to *box off* the machinery, that accidents which were once frequent, are now of rare occurrence. The evils arising from the inhalation of gritty and metallic particles, are twenty times greater than could possibly be ascribed to unprotected machinery. The lives of thousands are shortened and embittered by the baneful occupation which we have described. And the injurious circumstances, in the one case, are as easily, and almost as cheaply, corrected as in the other.

The efficacy of the plan is unquestionable. Where the apparatus has been in operation for years, we have not found a single individual labouring under any pulmonary affection; and the branch† in which we have observed this immunity, would otherwise have been exceedingly destructive to life.

A few of the more intelligent grinders have put up, at their own expense, an imperfect apparatus of this kind, and they have described to us in warm terms the benefit derived. In some in-

* That of Messrs. Yeomans and Shaw, spindle manufacturers of Sheffield. We have authority to state, that these gentlemen will be happy to show and explain to any visitor the system of ventilation which is efficiently carried out in the grinding of spindles.

† The grinding of spindles.

stances it has been done when the lungs had become affected with disease; and we know, from personal inquiry, that this has not only been arrested, but substantial relief has been afforded to the artizan. The plan, however, will never be generally adopted, or in any degree steadily maintained, unless enforced by special legislative enactments.

London and Edinburgh Monthly Journal of Medical Science, Oct., 1843, *p.* 886.

5.—ON THE BEBEERU BARK OF BRITISH GUIANA.

By Douglas Maclagan, M.D., F.R.S.E., Lecturer on Materia Medica, &c.

[Dr. Maclagan read a paper on the chemical history of the bebeeru tree before the Royal Society of Edinburgh, of which an extract will be found in the Lond. and Ed. Month. Journ. of Med. Science for July, 1843, p. 651. In the number of this Journal for August we find an interesting paper by the same gentleman, which gives us his experience of its powers as a medicine and as a substitute for sulphate of quinine. The bark and seeds of this tree yield two alkaline bodies, to which Dr. Maclagan has applied the terms bebeerine and sisseerine, from the Indian and Dutch names of the tree, and the sulphate of which has been proposed as a substitute for sulphate of quinine. Dr. Maclagan considers the action of bebeerine to be in a marked degree antiperiodic, and offers a number of cases to prove the truth of this assertion. Case 1:—Mr. C., aged 27, had been subject to ague in the tertian form in Canada. He was again attacked in Edinburgh, and, as quinine disagreed with him, the solution of sulphate of bebeerine as used by Dr. Rodie* was tried. The first dose, 25 drops, made him vomit, he having neglected, as advised, to take a dose of laxative medicine previously. He continued the dose twice a-day for five days, when the disease disappeared. Case 2 was that of a tertian ague, in which sulphate of bebeerine prepared from the seeds† was given. Of this he took in solution 40 grains, in doses of two grains thrice daily, and the disease yielded without his ever being confined to the house.

The value of bebeerine as a remedy, however, can be better judged of by its effects in the more serious cases of intermittent, as they occur in our colonies, and so far as it has been tried, there seems every reason to expect that it will be found to be an efficacious febrifuge.

* This solution, as prepared by Dr. Rodie in his earlier experiments, is a thick dark-coloured solution of the sulphate containing some impurity. I do not know its strength, but in his printed letter, Dr. Rodie indicated the dose as being from twenty to thirty drops. *Vide* a notice of Dr. Rodie's discovery by Sir Andrew Halliday, Edin. Med. and Surg. Journal, vol. 44th.

† Here and throughout this paper, when sulphate of bebeerine is mentioned, it is understood to be a sulphate containing both the alkalies of the bebeeru tree.

The following is the statement of Dr. Rodie himself, as quoted by Sir Andrew Halliday in 1835:—

"The trials that have hitherto been made of the sulphate of bebeerine, have been very limited; but they have hitherto been very successful. I tried it in a great many cases of intermittent and remittent fever, and found it equally efficacious with sulphate of quinine, nay, it frequently cured the fever when quinine had failed. I have communications from many eminent practitioners in the West Indies, and they all assure me that they have found the sulphate of bebeerine as valuable a remedy, if not more so, than the sulphate of quinine, and that it had never produced any irritation of the stomach, nor that alarming symptom of deafness and determination to the head, which so frequently follows the exhibition of the quinine in large doses."]

Edin. Med. and Surg. Journ., vol. xliv. *p.* 547.

[Dr. Watt, of West Coast Demerara, communicates some interesting cases in which this medicine proved equally successful. He found from a scruple to half a drachm or two drachms of the sulphate sufficient for a common intermittent. A portion of similar sulphate was sent to another medical friend in North America, and was equally successful in a case of tertian ague. On the first day of intermission the patient had 12 grains given to him; during the next intermission he took nine grains, and had no return. Dr. Blair, of the Seaman's Hospital, tried it instead of quinine, in yellow fever, and found it to answer as well.]

Periodic Headache.—I have not yet been enabled to obtain sufficient data to justify me in confidently stating the results of the treatment of periodic headache by bebeerine. I believe, however, that a proper selection of cases of this complaint will form one of the best means by which, in this country, we can test the antiperiodic powers of this drug, if we may judge at least from the facility with which we can observe the action of quinine in allaying this disorder. A large proportion of cases of periodic headache, however, are much more beneficially treated by a free use of cathartics, especially by croton oil in moderate doses, and it is chiefly in cases where the disease is connected with general debility, or where the cathartic plan has failed, that the use of bebeerine can be fairly tried. During the course of last year I put eight cases of periodic headache and faceache under a cathartic plan of treatment, with a view to afterwards testing the powers of bebeerine, but in none of them did the disease resist so long as to require the tonic remedy. In one or two cases, however, where, from peculiar circumstances, the cathartic plan was inadmissible, I have tried it, and have been well satisfied with the results obtained.

As regards the features which are characteristic of bebeerine as a therapeutic agent generally, I think that the above cases entitle us to consider that it is a marked antiperiodic and tonic,

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and consequently that there is good reason to believe that it may be applied to the same purposes for which the more expensive sulphate of quinine is employed.

Contrasted with quinine, I should say from what I have observed in my own patients, that it is not so liable to excite the circulation. Dr. Watt, in one of his letters, writes to me, "I took ten grains of the sulphate on going to bed on 27th November, by way of trial. The taste was not more bitter than quinine, but continued much longer in the throat. It has a very astringent taste, causing the point of the tongue to have a leathery feel. I felt some fullness about the ears during the night, but no ringing. The same quantity of quinine would have made my ears ring for a whole night, and made me feel nervous next morning. After the bebeerine I had no nervous feelings whatever."

London and Edin. Monthly Journal of Med. Science, Aug. 1843, *p.* 685—694.

6.—ON PHTHISIS.

By Dr. GRAVES, Dublin.

[In the following passage Dr. Graves explains his views on the pathology of tubercle.]

I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed tubercular inflammation, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referrible to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on them as one of the first of those morbid changes dependent on a peculiar constitution of body, and most commonly found to accompany it. The weaker the constitution is, the greater tendency is there to generate tissues of a lower degree of vitality, and, on this principle, I think we can explain the occurrence of entozoa and hydatids. There are some cases in which you will never be able to prevent the generation of intestinal worms, until you direct your attention to the source of the evil, which lies in the weakness of the constitution, for, in such a state of the system, all animals are liable to the formation of parasitic productions and tissues imperfectly animalized. I look on tubercles in this light, and not as the consequence

of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis. (pp. 279.)

[It occasionally happens, as Dr. Graves states in another place, that tubercles become deposited to an extraordinary extent in the space of two or three weeks, and the patient may even die of suffocation from this cause, without the usual symptoms of phthisis. "The most important, then, and as Dr. Graves observes, one of the first morbid changes arising from the scrofulous habit is the formation of tubercular matter. The presence of tubercles in any of its forms, however, is not so much the disease we are called upon to combat as one of its effects."]

Dr. Graves contends that in all cases of phthisis "the pectoral symptoms, of whatever nature they may be, are caused by scrofulous inflammation," by which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulcerations of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in characters, while there is the analagous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parietes, and difficulty of healing in each; and at the same time constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c. equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons et origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis, it is urged by Dr. Graves, that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted, although not mixed as in cases of true phthisis with broken-down tubercles.

We may, therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of these three effects of scrofula, it may be remarked, that, owing to their cause and origin being the same,

they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together.

[With the exception of rapid mercurialization in some forms of phthisis, Dr. Graves does not seem to advance anything particularly novel in the treatment of this fatal disease. Strengthening and supporting of the general system, and the improvement of its tone, form the basis of his prophylactic measures. Early rising, cold washing, free exposure to the air, exercise, with nutritious not stimulating diet, form the main point of the regimen which he recommends. The treatment of some forms of phthisis by rapidly affecting the system with mercury originated in the success attending Dr. O'Beirne's employment of the same means in acute scrofulous inflammation of the joints.]

The form of phthisis in which this practice is stated to have proved successful in effecting a cure, is where the lungs become affected before any general contamination of the system takes place. "It is in such cases, and such only," says Dr. Graves, that mercury ought to be tried, and it will avail nothing except when the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold or the occurrence of hemoptysis." Some instances are related of the good effects of this plan of treatment, and the observations of Dr. Munk on the same subject quoted at length from the Medical Gazette. The practice is not altogether new, but has been before recommended and followed by Dr. Rush and some other American physicians. They, however, failed to indicate the class of cases in which it was calculated to prove of service, and the indiscriminate employment of the method, and its consequent want of success in a vast number of instances may probably have been the cause of its having fallen into disuse. In the cases in which the mercurial treatment proves applicable, the tubercular affection, however, would seem to be of only secondary importance, so that this method appears to be chiefly serviceable in scrofulous pulmonary inflammation, rather than in tubercular phthisis, affording an additional reason derived from curative indications for retaining the term phthisis in its more definite sense.

Brit. and For. Med. Review, July 1843, *p.* 249.

7.—FURTHER REMARKS ON MATICO.

By Dr. Jeffreys, Liverpool.

[In Retrospect, vol. 6, art. 79, we referred to this vegetable as a powerful styptic, and published some remarks on the subject by Dr. Munro, of Dundee. It was introduced to the notice of the

profession by Dr. Jeffreys, of Liverpool, who has published an interesting paper on its virtues, which are said to be valuable in cases of gonorrhœa, leucorrhœa, menorrhagia, hœmorrhoids, epistaxis, and catarrhus vesicæ, &c. When Dr. Munro published his paper, the matico leaf had not been given internally, but since that time several practitioners have tried it in the form of infusion with decided advantage. Dr. Jeffreys thinks that the active virtues of the plant are principally due to the essential oil. In a case related by this gentleman, the patient had been subject for two months to excessive discharges of pure blood and coagula from the vagina, amounting to nearly a quart in a few days, occurring every ten days or a fortnight, and followed by a serous or muco-purulent discharge. The usual treatment had failed in this case, but on taking a wine glassful of the infusion of matico four times daily, she recovered from all severe symptoms in ten days. In another case, one of discharge of blood from the bowels with scarcely any feculent matter in the stools, he prescribed a decoction of matico in the proportion of half an ounce to the pint, and directed three tablespoonfuls to be taken every four or six hours. Three doses were sufficient for the cure.

If employed externally as a styptic it is better to apply the *under* side of the leaf. Internally the decoction or infusion may be safely given, half an ounce to the pint, and the dose three tablespoonfuls, increasing the strength to one ounce to the pint gradually; suspending its use for a day, and substituting a gentle purgative; but if it produce nausea, it should be omitted for a few days.]

Trans. of the Prov. Med. Assoc., vol. II. *p* 347—366.

[Dr. Hunter Lane, of Lancaster, has also written an interesting paper on the same subject, in the Medical Gazette, without being aware, he says, of any other person having in this country ascertained the internal medicinal action of the plant. His infusion is made much in the same way as the one mentioned above by Dr. Jeffreys, viz., one ounce of the leaves to a pint of boiling water; to be macerated two hours; and his tincture also is much the same as the one made in Liverpool, viz., two ounces and a half of the leaves to a pint of proof spirit, to be macerated for fourteen days.

Dr. Lane gives from half an ounce to two ounces of the infusion as a dose; as an injection it may be used *ad libitum*; of the tincture, one to three drachms as a dose. In chronic diarrhœa, Dr. Lane did not find the medicine of very decided advantage, but as an injection, in *leucorrhœa*, he thinks it has all the advantages, with none of the disadvantages, of the injection of nitrate of silver. It must always be remembered that it is slightly stimulating, as well as astringent, and therefore it would not be quite proper to use it in the early stages of this or any other affection where any inflammatory disposition existed. Cases are

related in which it was also successful in menorrhagia; and in that description of varicose and ulcerated condition of the rectum for which Dr. Houston has proposed the topical application of nitric acid of specific gravity 1500.*]

Medical Gazette, October 6, 1843, *p.* 9.

* See Retrospect, vol. 7, article 62,

8.—ON THE VAPOUR AND HOT-AIR BATH.

By Dr. Martin H. Lynch.

[It is not necessary to enter into any argument to prove the value of the hot-air and vapour bath in the treatment of many forms of disease. We publish this article chiefly to point out a very economical and efficient form of apparatus described by Dr. Lynch; but before doing so we will give a few remarks of Dr. Forbes on the use of this kind of bath taken from the Cyclopædia of Practical Medicine.]

Most of the cases (says Dr. Forbes) formerly noticed under the head of the warm bath are equally benefited by the vapor bath, and some seem more benefited by the latter. We shall only here refer to one of these—namely, the well known condition of the system which precedes many acute diseases, and which is familiarly known by the name of a *chill*, because it is usually produced by the application of cold. This state often exists for several days before the reaction of disease and fever supervene. It is the usual precursor of acute catarrh or bronchitis, asthma, pneumonia rheumatism, diarrhœa, or dysentery, &c.—in a word, of the numerous class of inflammatory diseases which derive their origin from cold. In most of these cases the vapor bath is a very effective remedy if administered at the proper time and in the proper manner. The most proper time is the earliest possible after the application of the morbific cause; but the remedy may still be applied with benefit, although with much less effect, at any time previously to the actual establishment of the local inflammation. After this has taken place, or is about to take place, the application of the bath will, in most cases, be more injurious than beneficial. In cases of the kind now under consideration, the vapor bath, especially if the vapor is breathed, appears to possess decided advantages over the common water bath. But although fully convinced of the admirable effects likely to result from this mode of treatment, we cannot consider it as a practice to be had recourse to at the discretion of patients without medical sanction, as, like all powerful remedies, it is capable of doing harm as well as good. Under proper regulation we have little doubt that it will in many cases effectually check the morbid process, which, if

left to nature, must end in formal disease. The temperature in cases of this kind should not be high; the object being to drive to the surface without exciting the circulation; the application of the vapor should be commenced at the lowest degree which is felt to be agreeable, as about 95°, and the temperature should be gradually and slowly raised, and should rarely exceed 106°. The more copious the perspiration that can be excited at a moderate degree of heat, the more likely is the result to prove beneficial.

The construction of Dr. Lynch's apparatus is very simple, whilst it combines the hot air with the vapor bath:—

A dome-roofed boiler of tin, somewhat more than two inches in depth at the circumference, rests upon a tin stand with iron legs. The stand is four inches high. The boiler is nine inches in diameter, thus giving a larger surface for the generation of steam than any other equally portable apparatus.

The dome-cover of the boiler is fixed, and has two openings—one in the centre, to which a tube of two inches diameter is permanently adapted, the other, close to the circumference, somewhat more than an inch in diameter. This latter aperture serves as a feeder for the admission of water, and has a screw-cover.

The two-inch tube ascends for more than six inches and a half before it is made to turn at right angles, so as to run horizontal to the floor, and joints are added, so that the conveying tube may be made long or short at pleasure.

Should the two-inch tube be made to turn before it has risen six inches and a half, the apparatus will not work so well.

The water should be put in boiling, and should only occupy, *at the utmost*, one third of the boiler.

As soon as the tube becomes heated, air rushes in at the feeding hole, and rises with the steam. Should the temperature rise too high, it may be lowered by the attendant withdrawing the lamp for a moment or two, or by putting the cover on the feeding hole, which cuts off the supply of hot air.

The spirit-lamp should not be more than half filled with naphtha, or spirits of wine.

The lower surface of the horizontal tube rests upon a plane *thirteen inches elevated* above the floor; a stool, hence, is required of this height, large enough for a chair to rest upon it, and also a small foot bath. I consider the immersing of the feet to the ankles in hot water adds much to the comfort and efficiency of the bath, as the hot air and steam *ascend*, and it is some time before the feet become enveloped in them. Laths should be nailed around this stool to prevent the chair from slipping off.

An earthenware spirit-lamp, like that sold by Griffin, of Glasgow, is the best; it need not have more than one wick orifice, and this should be three-quarters of an inch in diameter. I use the cylindrical wicks burnt in the library lamp, first rolling them up, so that the wick orifice may be completely filled. A metal lamp does not answer; the heat generated by the combustion of

so large a wick is very great, and, being readily conveyed by the metal, makes the naphtha, or spirit, boil. In this way it might give rise to troublesome accidents; I have found these to occur with a well made copper spirit-lamp, but never with the earthenware one.

A copper lamp, with four or five wick holes, is attached to some forms of apparatus, but two to three of the wicks cannot be burnt separately from the rest, unless screw-caps be made for each wick hole. These screws would bring the price of the *lamp alone* up to eight or ten shillings, whilst, if it become necessary to remove one of the screw-caps (in order to increase the heat), there would be a difficulty in effecting its removal, in consequence of its being too hot to admit of being touched.

The person taking the bath sits upon a chair placed upon the stool or table thirteen inches high, with his feet immersed to the ankles in hot water. A wooden hoop (of sufficient diameter to include the back of the chair and his body, and to extend forwards as far as his knees do in the sitting posture) is slung from his shoulders by two tapes, having cross belts extending across the breast and back, immediately before and behind the neck, which is included in the rectangular space inclosed by the cross-straps and the suspending tapes.

Behind, the hoop should be fastened to the back of the chair, so as to make it lie as much forwards as possible in front.

The cloak should be ample and long, sufficient to cover the patient, chair, and hoop, and to lie on the floor. There should be a slit behind, about thirteen inches above the lower edge, with a short sleeve (a foot long) sewed to it. Through this the steam tube is admitted.

In front there should be another short sleeve, capable of being easily reached by the hand of the person taking the bath; this sleeve is to be used for the purpose of passing out the thermometer and ascertaining the temperature. Strings should be attached to this sleeve, which strings may be tied or untied by the attendant.

The best material for making the cloak is the woollen stuff used for laundresses' ironing blankets, or Irish frieze, as recommended by Professor Macartney. The best description of the latter stuff can be had at three shillings per yard, and the cloth is about a yard wide; it is very thick, and impervious to steam. With a little attention, however, the bath may be effectively administered with the aid of common blankets; this I am able to assert from experience.

Professor Macartney's apparatus is well adapted for the purpose of applying steam at a *low* temperature in inflammations of the extremities or joints, but is not calculated for giving a general vapor bath for exciting general diaphoresis. Professor Macartney directs that, for the purpose of giving the general bath, the boiler and lamp should be included within the blankets or cloak. This alone is enough to condemn his apparatus, for the spirit-lamp and

boiler should (for obvious reasons) always stand outside, and open to the inspection of the attendant.

The only apparatus which comes near mine in efficiency and portability is that of Duval, which, I believe, is in use at Guy's Hospital. This apparatus, entirely made of copper, is extremely neat in execution and ingenious in its plan; but the surface of water exposed for the generation of steam is much less extensive than in mine, the hot air (with the gases generated by combustion) rushes in much greater quantity and at a higher temperature, rendering it impossible to remain as long in the bath as when my boiler is used, and, finally, the price of the apparatus is at least six times greater than that of mine. Moreover, the plan and workmanship are so peculiar that (even if it were not a patent article) it would be difficult to have repairs made in the country.

Duval's apparatus certainly has the advantage of being applicable for the administration of baths of steam-and-sulphurous acid gas; but these are seldom required, and when the apparatus is completely fitted up for baths of this kind, the price amounts to about twelve guineas.

My apparatus is so simple that it may be made in any part of the country from my description; but any gentleman wishing to try it, and desirous to avoid the annoyance of tradesmen's blunders, may procure it at Morris and Osborn's, 32, Parliament-street, at the very moderate price of twelve shillings and sixpence, for the boiler tubes, two earthenware spirit-lamps, and a strong wooden box, not much larger than a hat-box, to hold the entire.

The cloak can be made by any tailor or sempstress, and the stool or table may be had for four or five shillings.

Fourpence worth of naphtha is sufficient for each bath.

Prov. Med. Journal, July 1, 1843, *p.* 273.

Spirits of wine will be used to feed the lamp, when the person taking the bath can afford to disregard an increase in the expense to the amount on each occasion of threepence at the utmost; but the working class, and many of the middle classes, being compelled to observe the strictest economy, must employ naphtha for fuel; hence, a few directions for avoiding the disagreeable smell of that substance must be useful.

The lamp should not be charged with naphtha until the boiler is filled with hot water, and the stool and chair placed in their proper position, and, when it is charged, it should be lighted *immediately*, and the bottle of naphtha *instantly* corked. The lamp, when lighted, should, of course, be placed beneath the boiler. Were the lamp permitted to remain unlighted, the naphtha would escape by evaporation. The lighting of the lamp prevents the evaporation, by *consuming* the naphtha in combustion.

The best wick is that made by rolling up the cylindrical wicks of the oxydator library-lamp. I have tried one made of the com-

mon thread-wick, but, when it is made so as to *fit* the aperture of the lamp closely, the flame is unnecessarily strong, and, when it is made to fit loosely, it falls into the cavity of the lamp. The unnecessary degree of flame does not give rise to any accidents; the boiler, stand, and lamp, all sustain it without injury, but there is a considerable waste of fuel. The excess of flame would cause the water to boil too violently in any other form of apparatus, but *not in mine;* the current of cool air passing from the feeding hole over the surface of the water prevents this. When the hot water is put into the boiler, and the lamp placed beneath, the cover should be screwed on the feeding hole, and not removed until the apparatus is ready for use, which will be in less than five minutes, but the time varies a little according to the temperature of the water when it is poured into the boiler. When the patient is seated, and the cloak adjusted, the cover is removed from the feeding hole, when the vapor, combined with hot air, issues forth freely. The object of this precaution is to prevent the escape of steam into the room—to bring the apparatus to full work without any diffusion of vapor through the apartment. The patient will know when to undress by feeling the three-feet conducting tube (along which the heat steadily progresses during the five minutes), and should take his seat immediately after the issue of steam in very small quantity from the conducting tube.

When the lamp is extinguished, the wick should be laid on a plate, and the plate should be placed on one of the shelves to be found on each side of most grates, so that the naphtha in the wick may be carried up the chimney-flue. The naphtha left in the lamp (if any) should be without delay returned into the bottle.

The precautions regarding naphtha will prevent any escape that would prove injurious or disagreeable.

Since the publication of my former communication, I have contrived an improvement in the stool and hoop, so that they may be conveniently carried in travelling.

The stool should be twenty-four inches wide, by forty-four inches long, and, for travelling, should be equally divided into two parts, in its longest direction. Each part is a foot wide, and forty-four inches long. It is made of thwart-pieces of deal board, a foot wide, laid across two strong pieces of oak or beech, three inches wide, forty-four inches long, and two inches thick. Four legs of oak or beech are fitted into each division of the stool, sockets being cut in the oak or beech for them. The two divisions of the stool are joined together like dining-tables.

In order to pack the stool for travelling, draw out the legs from the sockets (nearly two inches deep), and place the inferior surfaces of the two divisions of the stool in apposition with each other. The pieces of oak lie together, surface upon surface, but between those portions of the deal which are not nailed upon the beech or oak a space or box is included. This box is six inches wide, forty inches long, and four inches deep (from deal to deal). In it can

be packed the legs and the iron rods, which I shall presently describe.

Four light iron rods are made so as to screw together, and form an oblong figure, twenty-eight inches wide, and thirty-six inches long. They do not screw together at the angles, which are rounded off, to prevent holes being worn in the cloak. To the side rods (thirty-six inches long) rings are fitted, about four or five inches from the posterior end, in order to tie them by tapes to the side of the chair, and thus maintain the posterior rod at the distance of four inches from the back of the chair, whilst the anterior will lie as far forward as the knees, but above them. The rods have flannel covers.

I omitted to observe above, that the damping of the wick, before lighting the lamp, should be effected by pouring a little naphtha or spirit into a small cup, and placing it on the grate-shelf, or pouring the surplus back into the bottle after the wick has been damped.

Ibid, July 22, 1843, *p.* 337.

[In another communication to the same Journal, Dr. Lynch publishes some improvements which he thinks may be useful.]

Having procured bath-gowns made of various kinds of stuff, and having tested each, I am able to say that no material is so suitable as a particular kind of sail-cloth; no bath-cloak can be had cheaper, but leaving cheapness out of the question, the sail-cloth cloak is superior to all others for retaining the vapor and hot air, and has the advantage of drying very rapidly. After a bath of one hour and ten minutes in duration, I have repeatedly found it slightly moist on the inner side only, whilst the outer surface has been quite free from moisture; in this state it has been hung up in a lobby, and has been found perfectly dry in less than three hours; in the open air, or before a fire, a much shorter time would be sufficient for drying it. The sail-cloth gown also looks well, washes well, and is more durable than any other.

Having had several cloaks, sets of boilers, tubes, &c., made for my own use, and having had the whole apparatus in use for a long time, I can give some hints that will save expense to purchasers.

Less stuff by three yards is used in making the cloaks now than at first, as several were made before the most economical mode of cutting the cloth was discovered; besides, arrangements have been entered into for procuring a great number, to be made in one establishment, for less than half the price demanded for making one; hence, I am convinced at least ten shillings will be saved by procuring the cloak from Mr. Morris. A saving will also be effected by buying from him the portable stool with shifting legs; and, indeed, I strongly advise that nothing should be made in the country but the common six-shilling stool with fixed legs.

In my second paper, twenty-four inches by thirty-six should have been given as the measurement of the stool, instead of twenty-four by forty-four.

I now make the cloak rest on the stool, as in this way it answers perfectly, and much stuff is saved.

The wick should be precisely the same as that sent in the lamp by Mr. Morris. For the general bath it should project an inch, or three-quarters of an inch, beyond the orifice, and before it is lighted the threads of the projecting portion should be unravelled, and spread wide, so as to have a broad flame. There is no danger to be apprehended from the strength of the flame.

The patient should not take his seat until the water boils most freely, which is known by the sound of the boiler and tremor of the tube.

Prov. Med. Journal, Aug. 19, 1843, *p.* 426.

9.—ON TUBERCLES AND PHTHISIS.

By James Black, M.D., Physician to the Manchester Union Hospital and Lecturer on Forensic Medicine, Manchester Royal School of Medicine and Surgery.

[We take the following from Dr. Black's very able retrospective address on medicine published in the last volume of the Transactions of the Provincial Medical Association; and we cannot lose this opportunity of publicly thanking that gentleman for the ability and learning which he has therein proved himself to possess.]

Considerable difference of opinion still exists among pathologists, as to the generation and development of tubercles, as found in the lungs—whether they are the physiological result of a low inflammation, or are a peculiar deposit from the blood, formed by the aggregation of certain morbid or semi-organised molecules, or whether they are an abnormal growth, of the nature of hydatids. Their primary localization is also unsettled. Gerber considers these deposits may arise from any arrestment in the capillaries of the lungs, by which an exudation of the *plasma* or *liquor sanguinis* takes place through the parietes of the vessels into the parenchymal tissue, and so the tubercles are formed— thus making them a mere exudation of albumen, if not of fibrinous globules. Lugol considers their formation to be an *epigenesis*—organized matter capable of nutrition, similar to parasitical growths in other parts, such as in the case of hydatids, intestinal worms, and *pediculi*. All these parasitical complaints are held to be much more frequent in scrofulous habits than in others; and he denies that tubercles begin to soften first in the centre, but equally throughout—being previously quite homogeneous in their texture. As a proof that tubercles are endowed with vascularity, Lugol has met with two

instances of hæmorrhage in their interior; and, according to his latest opinions, tubercles are no more to be looked upon as devoid of blood-vessels, than the pleura or the white matter of the brain, when congestion or inflammation does not exist; but where vessels are easily detected by the naked eye in all of them, when these phenomena take place.* Dr. Kingston also argues for the vascularity of tubercles, and cites, as an analagous proof, the *supposed* non-vascularity of articular cartilage, which, he says, has now been proved to be supplied with blood-vessels † In this, he may be said to overlook the ready development of vessels in textures normally corpuscular, or only endowed with cellular permeability. In opposition to these views, many pathologists, especially in this country, consider tubercles to be composed of inorganized matter deposited from the blood on the mucous surface of the air-cells, and, not unfrequently, in the parenchyma of the lungs. It also follows, that as no change can originate in the inorganized matter itself, so the solidified tubercle can only be affected through the agency of the parts around, or in contact with it. These latter opinions are founded, principally, on the anatomical researches of Dr. Carswell, and Dr. Watson adopts them to their full extent, while he agrees with Lugol, that the formation of tubercles is closely linked with the scrofulous diathesis.‡ While the miliary tubercles are considered by Andral, as the pulmonary vesicles rendered hard by chronic *inflammation;* others, following Dr. Carswell, continue to attribute them to a secretion from the blood, not of tubercular matter alone, but also of a portion of its albuminous fluid, forming a transparent matrix or cyst for the more solid deposit. Dr. Watts seems to hold the modified view of tubercles being of an intermediate nature between pus and coagulable lymph, first solidifying, then softening.§ That tubercles are the pure result of inflammation is now rarely entertained; but the more modern phraseology is, that they are the result of a perversion of the ordinary process of nutrition; and that the existence of the scrofulous diathesis occasions that to be deposited as inorganizable albumen, which, in a sound state, would have taken on the form of organized fibrine.‖ Dr. Campbell, moreover, in his late *Observations*, infers, with some French physiologists, that the pulmonary capillaries are of smaller dimensions in individuals of strumous habits, than in those of a healthy constitution. This is the predisposition which arrests the imperfectly organized globules in the lungs—a deposition therefore takes place in the pulmonary capillaries, followed in process of time by a reaction, explosive of the disease. M. Louis, in his admirable article on Phthisis, in the

* Lugol's Lectures, by M. M. Bennett and Guiet; Medical Gazette, September 24, 1841.

† Medical Gazette, November 26, 1841.

‡ Lectures in Medical Gazette, vol. xxix.

§ Dublin Journal of Medical Science, March, 1842.

‖ Carpenter's Physiology, p. 497.

Dictionaire de Medicine, lately published, takes a review of all the theories existing on this subject, and considers objectionable that of tubercle being the result of inflammation, or of being nothing but concreted pus, having its seat in the venous capillaries, according to Cruveilhier and Lallemand. He considers the semi-transparent granulation or miliary tubercle as the first degree, or the nucleus which is developed into the crude tubercle; and, on the whole, he seems inclined to attribute some vascular organization to these bodies. The article is a most valuable one, and deserves translation into our language.

Notwithstanding the continued hopeless fatality of tubercular phthisis in general, after all the progress that has lately been made into its *genesis* and the intimate analysis of its morbid products, still we may say, we are advancing in the more correct appreciation of those cases, in which a lamentable issue is to take place, through the means of our improved stethoscopic diagnosis. The more perfect knowledge of the predisponent causes and the incipient condition of the disease is, by degrees, leading us to a more scientific application of preventive measures, and, especially, by correcting early aberrations in the nutritive organs. The use also of respirators and of artificial local atmospheres, as recommended by Mr. Jeffreys,* if a timely removal to an appropriate climate cannot be accomplished, are also thought more worthy of attention. It would also appear from Liebig's late investigations, that a diminished supply of oxygen from a warm and moist atmosphere, would tend to diminish the amount and severity of pulmonic disease.† Mr. Gilbert, in his lately published work,‡ while he considers, like several of his predecessors, the *fons et origo* of the disease to be owing to inorganizable matter being conveyed into the blood from a defective or perverted nutritive process, strongly insists on a judicious regime and diet in youth, especially where there is a phthisical diathesis in the parents. To detect the earliest invasion of the disease, which is the most difficult point in our stethoscopic diagnosis, he recommends M Fournet's very discriminative attention to the respiratory murmurs, and especially to those of expiration, which are increased both in duration and intensity, while the inspiratory murmur is increased only in intensity, but diminished in duration.

The occasional discovery of cicatrized cavities in the lungs, such as are related by M. Payan, of the Hotel Dieu of Aix, and by Drs. Stokes and Graves, has moreover stimulated some to continue the use of empirical remedies, even in the advanced stages. Among these, we have the *proto-iodide of iron* and the *ol. asphalti;* while, in the early periods, we have the pure alkalies

* Medical Gazette, vol. xxx.

† Liebig's Organic Chemistry of Physiology and Pathology, p. 23.

‡ Pulmonary Consumption; its Prevention and Cure, established on new views of the Pathology of the Disease, London, 1842.

highly recommended by Dr. Campbell,* and repeated emetics of *ipecacuanha* by Dr. Durant,† after the old plan of Dr. Morton. We must not here forget the very elegant arsenical cigarettoes, invented by M. Trousseau, which, in these days of *fumomania*, might be easily and effectually adopted, instead of glass inhalers or other stationary apparatus, which are seldom perfectly managed by delicate and nervous patients.

Some of our French brethren are not very sanguine, that the light of modern science will add much to the cure of phthisis; and M. Paris, Haute Saône,‡ even says, that since the discovery of auscultation and percussion, the disease is in general more rapidly fatal. He attributes this to an early decided prognosis, whereby the patient is at once put upon a medicated diet, by which the blood becomes sooner impoverished; for he considers the very essence of the disease, to be a poverty of nutritious principles in the blood—that its character is chronic, and that its more irregular and rapid progress is owing, to the employment of an antiphlogistic treatment, to a dietetic regimen, or to a milk and mucilaginous diet, producing an atony in the digestive organs, and also to the depression of the active moral sentiments. He also cites some cases where a generous diet and dissipation of time, with travelling, produced a cure or lengthened course of the complaint. I may here remark, that some late statistical inquiries have tended to stagger the popular, if not medical opinion, as to the greater prevalence of phthisis in some climates and among some classes of people, who were thought very obnoxious to the disease. A writer of a very elaborate article in the *London Medical Gazette* has endeavoured to show that, from statistical returns, "it is neither inequability of temperature, nor the frequency and magnitude of the variations in temperature to which a country may be subject, that have any effect in the production of phthisis;"§ and Mr. Noble, before the statistical section of the last meeting of the British Association, has deduced some observations, in which some few others concurred, that the deaths from consumption, in the factory district of Manchester, were actually fewer in proportion to the deaths from all causes, than in the agricultural county of Essex, being as four to twenty-one in Essex, and three to nineteen in Manchester; and finally he showed, that a smaller rate of mortality from this disease, compared with the number of deaths from other causes, existed in the Manchester district, than was to be found in the rural parts of the country.

Of those somewhat rare but very interesting diseases of the lungs, cancer, and cirrhosis, Dr. Stokes has given, in the *Dublin Journal* for May last, a very luminous account, with cases, and

* Op. citato. † Medical Gazette, December 31, 1841.
‡ Bulletin Général de Therapeutique, September, 1841.
§ Medical Gazette, July 1, 1842.

enters very fully into their pathology and diagnosis. A case of cirrhosis is also given by Dr. Green; and from the perusal of both details much interest and instruction may be derived.

Trans. of the Prov. Med. Assoc., vol. ii., *p.* 82.

10.—ON YELLOW BARK.

By Mr. Richard Battley.

[This gentleman has for many years prepared a concentrated cold infusion of yellow bark, which he terms *Liquor Cinchonæ cordifoliæ*, and which from personal experience we can recommend as an excellent medicine. There are probably few individuals more experienced in these matters than Mr. Battley, and his opinion is in a great measure correct when he says that "the value of yellow bark has been too generally and too exclusively attributed to the quinine it contains"—and he goes on to state "it has ever been an object with me *to preserve unbroken that natural union by which several active principles are often combined in the same plant*:" and from long experience he is convinced that no method of extracting the virtues of plants is equal to maceration in *cold distilled water*, which takes up from plants, with few exceptions, all their medicinal properties. Whether acid or alkaline, gummy or resinous, bitter or astringent. The conclusions to be drawn from numerous experiments are—]

1. Bark will yield to *cold distilled water* all its constituents except starch and woody fibre, some earthy salts, and a small portion of tannin and quinine, which can only be separated from the tissue by means of an acid.

2. 28lbs. of good yellow bark will yield from 5 to 6lbs. of concentrated liquor, sp. gr. 1200, containing about 10 oz. quinine; the aroma, and the greater part of the tannin and iron, and the peculiar acid of bark, of which only a small portion is lost, forming an inert salt with lime.

3. To form this liquor it is only necessary to subpulverize the bark, and macerate it from four to six hours in twice its weight of cold distilled water, repeating the process twice, or at most thrice: to concentrate the infusions over a water bath to sp. gr. 1200, and allow the liquor to deposit the gummy matter and so much of the tannin as it cannot retain in solution.

To separate any gum that may still remain in the liquor, and to prevent any decomposition, proof spirit is added to it, until the sp. gr. of the liquor is reduced to 1100. The quinine still remaining in the bark, may, if it be thought desirable, be separated by acetic acid, and precipitated from its solution by ammonia; and being re-dissolved in a small quantity of dilute acetic acid, may be diffused in the liquor.

The advantages of this medicine are—

1. That it contains not one, but all the active principles of yellow bark.

2. That the greater part of the quinine is preserved *in its natural state* in combination with the peculiar acid of bark, in which it is more soluble than in sulphuric acid.

3. That the active principles *have undergone no change*, either from exposure to too great heat, as in the decoction, &c., or by being brought into too close contiguity, as in the extract, in which secondary formations take place to so great an extent that water is incapable of re-dissolving it.

4. That containing no starch and little gum, it will remain unaltered for a great length of time.

5. That the quantity of spirit contained in a dose is too small to be objectionable.

6. That it is a convenient, agreeable, and elegant medicine, miscible with wine or water in any proportion.

On its merits as a therapeutic agent I forbear to enter. I will only add, that whatever yellow bark can accomplish will be best performed either by the recent cold infusion or the concentrated liquor. The latter not only agrees with the stomach, when irritation and nausea are produced by the disulphate of quinine, but it not unfrequently succeeds in obstinate periodic and cachectic diseases when the disulphate of quinine has failed. But the liquor cinchonae has been so long before the profession, and is so extensively employed, that it requires no observations of mine to prove its efficacy. My object, in the present paper, is rather to make more generally known the exact method of preparing it, and to direct attention especially to those peculiarities in the process on which its elegance and efficacy chiefly depend.

Medical Gazette, April 28, 1843, *p.* 166.

II.—ON THE EFFECT OF TEMPERATURE IN CAUSING REFLEX ACTIONS.

By W. F. Barlow, Esq., Oxford.

[Mr. Barlow states that owing to the large extent of surface to which temperature may be applied a great number of incident nerves may be thereby stimulated at one time, and be made available in a powerful degree to the treatment of disease.]

The various muscular actions which temperature originates, when applied to the cutaneous or mucous membranes, are very numerous; some of them are amongst the most familiar of events, but are not the less worth considering on that ground. The fact that a dash of cold water will recover a person from a state of

syncope is a beautiful and important truth; and it is in great measure owing to our knowledge of it that that singular phenomenon strikes us with no terror, though it bears so exact a similitude to death. The remedy is always at hand and ever efficacious. It is applied, and in a moment, breathing, and with it consciousness, the action of the senses, the power of volition, the expression of life are restored entirely.

In coma succeeding to convulsion the use of this measure will sometimes be equally striking in its result. A short time since I was called to a child whom a fit had left perfectly insensible; indeed, there was no sign of life; not the slightest respiratory movement was visible; no pulse could be detected, and the features were pale and deathlike. The respiratory, circulatory, and cerebral functions, and all the signs of animation, were instantly renewed by cold affusion. Here it may be inquired whether life would have been preserved had not respiration been provoked either in this or some other manner? Would the patient have rallied if left to himself, with bystanders looking on with consternation and doing nothing, because ignorant of what to do? Do not convulsions oftener end fatally than is supposed from no efficient stimulus being had recourse to when they bring on insensibility? Coma, though it may result from functional causes, as well as from organic change or injury, is never to be regarded as a light occurrence; and when attended by a cessation of the respiration and circulation, it must be viewed as a temporary, too easily convertible into a permanent death. The mechanism of the body may be unimpaired, but who can restore its action after a too long rest?

In narcotic poisoning, also, the same application is indicated urgently, but here it must be perseveringly repeated, not relinquished on a little trial. The great source of danger clearly consists in the blood being no longer duly oxygenated, through deficient or temporarily suspended breathing. The brain, therefore, becomes doubly influenced,—primarily, by the narcotic, secondly, by venous blood. In an instance which I witnessed under the care of Mr. West, of Tunbridge, occurring in an infant who had accidentally swallowed a large quantity of opium, and was so affected by it that there was the completest coma, a pallid countenance, livid lips, and fearful pauses in the respiration and circulation, this remedy was given a fair trial. No sooner was it used than inspiration followed, and scarcely was it desisted from ere it became needful to resort to it again. Friction was had recourse to at intervals, that the warmth of the surface might be preserved. A sort of artificial respiration was kept up until natural breathing returned, and the cerebrum awoke from its lethargy. The nerves of the skin were made to play that part, which under ordinary circumstances the vagi nerves perform (through the stimulus of carbonic acid), and so life was continued, and a perfect recovery ensued.

In cases where prussic acid has been administered, and the frame is influenced by that deadly poison, a valuable auxiliary will be found in cold affusion, to chlorine, ammonia, artificial respiration, &c.; Herbst, Orfila, and others, speak highly of its powers.

In the cases of persons to all appearance dead, heat and cold are powerful measures in arousing the respiratory system; but they are not to be regarded as substitutes for other methods of resuscitation, so much as allies to them. The *first* remedy at hand must be put in force immediately; there must be no wavering. It has been somewhat humorously remarked by Dr. Fothergill, in regard to the comparative value of inflation by the mouth and bellows, that the former is preferable (among other reasons) "as the bellows may not be at hand."

The value of temperature in congenital asphyxia is admitted universally; one dash of cold water will suffice sometimes to excite breathing where it is delayed.

I think that most physiologists must concur with Dr. Marshall Hall in the opinion that the *first* act of inspiration in the new-born infant is excited through the fifth and spinal nerves, by the impression of the cold air. In breech presentations the hand of the person assisting in the delivery may primarily produce it, from being of a temperature lower than the fœtus. It was remarked by Dr. Heming that an infant which did not respire when born, breathed directly the bedclothes were lifted up. And I have noticed movements in paraplegic limbs occasioned by their sudden exposure to the cool atmosphere, a fact which assists greatly in throwing light upon this subject. But we know that cold water readily excites inspiratory acts, and on this account, simply, it would be reasonable to conclude that cold air can do the like. Does not the same principle act in both cases, however different the medium? Cold, heat, tickling, friction, artificial inflation, &c., may become the first excitors of respiration, as the case may be; but the process is not occasioned, as that great authority, Müller, has imagined, through the impression of arterial blood on the medulla oblongata, for this view (as Dr. Hall remarks) inverts cause and effect; nor is ever "the first respiratory act *purely mechanical*, resulting from the change of position which the child undergoes at birth," as the able author of "Animal Physiology"* has affirmed.†

The cold douche has been used commonly to impress the respiratory muscles in epilepsy, and it has been especially recom-

* Published by the Society for the Diffusion of Useful Knowledge.

† Dr. Scholler, of Berlin, proposes that when new-born infants appear dead from suffocation little time should be lost before they are treated with a hasty plunge in cold water. This, he says, will often restore them speedily when other means have failed, though he cites a case in which three hours were spent in successive immersions before the infant respired.

Lancet, May 27, 1843, *p.* 299.

mended in the puerperal form of it by Dr. Denman. Applied before the convulsion it may avert it; during it, it may hasten its departure. What is the rationale of its action in these cases? May it not prevent the closure of the glottis by the full and frequent inspirations it produces? or counteract and sometimes overcome the strong efforts of expiration which mark the convulsions by causing an antagonistic action of the respiratory muscles?

Cold acts upon the uterus like a charm, and in cases of flooding has saved the lives of many women. I have found it efficacious in retention of the placenta, and think that its application would sometimes make needless the introduction of the hand. The alternate action of cold and heat has been ingeniously used by my friend Mr. Simpson to occasion uterine action before delivery. The case in which he tried it was one of puerperal convulsions, in which there was a cessation of the parturient pains. He first used cold only, and found it very effective for a time, but the skin became chilled by its continued application, and it would act as an excitant no longer. "Accordingly," he says, "warm flannels were applied to restore the temperature, and then cold water was used again with decided effect." This is an example of the good result of distant degrees of temperature; in vain are heat and cold applied separately in some instances, where their alternate action would avail. Dr. Marshall Hall well observes, in relation to the nearly asphyxiated infant, "The important point to be considered is, that it is not the mere application of cold, but the sudden application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation.*" The success of temperature in Mr. Simpson's case should induce other practitioners to give it a trial where labour lingers. Perhaps it would be beneficial where it would be criminal rashness to administer the ergot, which, though a most valuable remedy when it is prescribed with judgment, has been shamefully misused.

The operation of cold as an excitor of the expulsor fibres of the bladder, has been most interestingly illustrated by Dr. Currie, in his "Medical Reports." "My friend, Dr. Ford, has mentioned to me the case of Mr. C——, of Bristol, who was instantly relieved of an obstinate stricture of the bladder, of thirty hours' duration (during all which time not a drop of water had been passed), by placing his feet on a marble slab, and dashing cold water over the thighs and legs. The effect was instantaneous; the urine burst from him in a full stream, and the stricture was permanently removed. The common remedies, particularly opium and bleeding, had been tried in vain." Facts of this kind have been noticed by several other observers.

Cold will act similarly upon the rectum; when applied to the scrotum it contracts the cremaster. In a patient of Dr. William Budd, cold water was expelled with force upon being injected into the bladder. The first act of suction may be induced by it, as

Dr. Marshall Hall has showed. It is said by Professor Müller that "contractions of the iris are produced by drawing cold water into the nostrils."*

Heat and cold are admirable tests of the excess or failure of the excito-motory power. They can be also used remedially where physical irritation is far less effective in calling it into play.

I have many times observed that temperature excites convulsive movements in paralytic limbs, where volition is extinct altogether. Sensation may be present or absent in such instances, but it has no more concern in producing the motions in the one case than in the other. The effect is often correspondent to the degree of temperature applied. In a case of hemiplegia, occurring in a child five years old, in which voluntary motion was entirely lost, sensation remaining, I noticed that the application of heat and cold alike produced reflex actions. The hand was immersed in water at the temperature of 90°, 120°, and 140°. In the first case no muscular movement was perceived; in the second there were forcible spasmodic actions; in the third they were still more violent. Dashing cold water on the face and chest occasioned convulsive movements of the paralytic limbs. In paraplegia, where no sensation could be transmitted to the brain, nor any volition from it, I have had occasion to remark the most lively reflex actions produced by temperature. The same phenomena have been witnessed by many physicians and physiologists.

Lancet, May 13, 1843, *p.* 219.

* See Dr. Baly's Translation of his Physiology, p. 614.

12.—USE OF NAPHTHA IN TUBERCULOUS CONSUMPTION.

By D. Wilson, Esq.

In this case the following symptoms presented themselves. The patient was of a fair complexion, &c., with a general appearance strongly indicative of the scrofulous diathesis. He has lost one unmarried sister, ætat. 38, from consumption, and another, married, ætat. 21, from a "bad throat." He never was very strong, and is now losing flesh and strength rapidly. He has night perspirations, and little or no appetite; wandering pains about his chest, almost constantly between his shoulders; his spine is curved (where there is considerable tenderness on pressure), bending towards the left shoulder, and causing great rotundity of that side of the thorax, posteriorly. For support, over the same shoulder, he wears a broad belt, which is attached to another encircling his chest. The walls of the thorax, on the right side, seem as if they had approximated antero-posteriorly,

so that collapse and immobility are very striking. The infra-clavicular depression is not so great on the left side, throughout which respiration is highly puerile. In the entire upper part of the right lung respiration is absent, and slightly audible in spots only, in the lower part. Percussion elicits a dull sound over both infra-clavicular regions, particularly over the right. The heart-sounds are very audible over the same spaces.

I examined them again on the 5th and 7th of February. On the latter date a physician also stethoscoped him, whose diagnosis tallied with my own, in pronouncing his lungs to be the seat of tuberculous deposit. On February 12th he was stethoscoped with the same result. He felt himself getting daily worse, when I, with much scepticism, determined to try naphtha, the first and only medicine he has had from me. He was ordered ten drops, to be gradually increased to twenty drops, three times a-day. At the end of the week, to my surprise, he expressed himself to be much better; his *perspirations had ceased, his appetite and spirits were returning, the spinal tenderness had gone, the breathing was more extended in the right lung*, although very weak, and the *puerile respiration in the left lung was greatly diminished.* The treatment was continued for six weeks, when he was vastly improved in every respect; the right side seemed to have become more developed, and where collapse and immobility had previously existed, there was now considerable freedom and elevation of the ribs during inspiration. In fact, he was so well that he abandoned his medicine (naphtha). After a *week's discontinuance of it he felt much worse*, and gladly resumed taking it, *and at the end of another week he felt himself in the same improved condition as when he left it off.*

[This case confirms the opinion of Dr. Hastings on the value of this remedy. We are not disposed, however, to feel the same confidence in its powers as this gentleman.]

Lancet, June 3, 1843, *p.* 344.

[Probably much of its value in pulmonary affections may be owing to its powers as an expectorant.

Naphthaline has been found to possess valuable properties of this kind, as will be seen by the following notice of it.]

This substance, when applied to the tongue, causes a peculiar heat and pricking sensation, which extends down the throat and bronchial tubes, and exciting a spasm of the latter, ends in inducing a cough of a kind very efficacious in clearing the air-cells and canals of accumulations of mucus. It is, therefore, a remedy highly suitable in the asthmatic coughs of old people, and others who, from debility, are unable to expel the matters which clog the pulmonary membrane. M. Dupasquier, of Lyons, prescribes it in the form of a syrup and an electuary. The former is composed of fifteen grains of naphthaline, suspended by a small quantity of boiling alcohol in about four ounces of syrup, of which the dose

is a teaspoonful every quarter of an hour until expectoration. The other form consists of naphthaline well mixed with any simple electuary, in the proportion of eight grains of the former to half a drachm of the latter; dose, a tablespoonful every quarter of an hour, as before.

Lancet, July 8, 1843, *p.* 515.

13.—CASE OF POISONING BY COLCHICUM.

By A. T. Thompson. M.D., Physician to University College Hospital, &c. &c.

[The subject of the following case, John Goodrich, was ordered in a public institution six drachms of tincture of colchicum in a half pint mixture of Epsom salts, of which he took one ounce every six hours. It was ascertained that a larger quantity (six oz.) of the colchicum had been put into the bottle than was prescribed. Vomiting soon commenced after the first dose, and after the third, the nose began to bleed profusely, accompanied with violent purging. Notwithstanding these violent symptoms, the medicine was continued. His medical attendant found him sitting up in bed, with his back reclined against the wall, his arms hanging listlessly beside him, his head bent forward upon his breast, and his shirt drenched with blood from his nostrils. His mouth was open, his eyes were staring, full, and turgid; the vessels of the adnata congested and the pupils dilated: pulse 170, full, bounding, and incompressible, and respiration short and hurried. Thirty ounces of blood were taken from the arm, and a mixture containing potass. carb. and liq. opii sed. was prescribed, followed by port wine and cinchona bark. This treatment seemed to rally the patient, but he ultimately relapsed and died. But we have condensed this case chiefly to hang a practical remark upon it, made by Dr. Thompson, which is as follows:—]

On reviewing the treatment of this important case, I have little to remark, except that it is probable, had my assistance been sooner demanded, I should have opened the temporal artery, instead of bleeding from the arm. I am of opinion, that in the early stage of poisoning by an *acrid*, or a *narcotico-acrid poison*, the poison is circulating in the blood; and that much benefit would result from rapidly abstracting a large portion of it from the vicinity of that organ, upon which much of its energy is exerted. By such a practice, also, the sympathetic irritation would have been greatly lessened, and time would have been thus afforded for providing against the collapse, which, in all these cases, is the result to be dreaded.

London and Edin. Mon. Journal of Med. Science, June, 1843, *p.* 540

14.—ON THE URINE, AS A MEANS OF ESTABLISHING THE DIAGNOSIS AND TREATMENT OF DISEASE.

By Dr. F. Simon.

From the physical and chemical state of the urine the attentive observing physician might obtain a great quantity of information for ascertaining and establishing a diagnosis; much of what might be said here is already known, and I shall touch on these points very superficially, much more however might prove to the reader not at all uninteresting.

The old physicians considered the examination of the urine as an important point for judging of diseases and of their probable course, and as we have already remarked, they made up for their deficiency in chemical knowledge by sharp and close observation: the earliest chemical examinations of the urine occurred in one of the earliest epochs of organic chemistry. Among the earlier investigators who paid attention to the urine, though very partially, I may mention Brandt, Kunkel, Boyle, Bellini; Boerhaave, however, attempted an analysis of the urine which, considering the time, was extremely good. Scheele's discovery of uric acid, and Cruikshanks' of urea, contributed essentially to a more correct knowledge of this secretion. The latter surgeon had already examined the urine in several diseases, especially in diabetes and dropsies. At the commencement of the present century it was chiefly Berzelius and Prout who made the urine the subject of extended inquiries; Berzelius demonstrated the existence of lactic acid, which by the earlier chemists had been considered to be acetic acid; the analysis communicated by Berzelius in 1809 of the composition of the urine, has been till within the last few years the only correct examination of the same; Prout has continued his inquiries up to the latest period. Of the more recent works on the constitution of the urine, those by Lecanu are the most prominent; within the last years Becquerel, Lehmann, and Simon have employed themselves with examinations of the urine in the healthy and morbid state. Several constituents of the urine, both in the state of health and disease, are very accurately known, as uric acid, urea, lactic acid, the salts and the sugar of the urine; of others, probably not less important, we have a very imperfect knowledge, as of extractive and colouring matters. Regarding the quantitative composition of the urine, which is rather changeable, numerous investigations have been made by the above-named chemists. Lecanu also investigated the varieties which may be shown in healthy urine, according to age and sex.

The quantity of urine passed in the 24 hours, and its colour, are frequently of importance. A diminished quantity of the urine passed in 24 hours is under circumstances a sign particularly of acute diseases; an excessive increase of the urine, if permanent, is oftentimes indicative of serious diseases. A dark-coloured, flaming or fiery red urine commonly indicates an inflammatory

affection; a dark brown red is generally observed in typhus. But the urine may also be coloured blood-red or brown-red by bile-pigment, which is easily detected by its re-action with nitric acid; the latter constantly indicates an affection of the liver; a blood-red urine commonly contains blood; there is then for the most part found in it a sediment of blood-corpuscles, which are recognized with the microscope; but should a little blood be contained in the urine and this in a state of solution, it may be discovered by adding nitric acid, which occasions a precipitation of coagulated albumen coloured red by hæmatine. This bloody urine indicates a bleeding in the kidneys, bladder, urethra, or, in the case of women, of the uterus. Blood flowing from the urethra comes in drops. If the blood is discharged in masses after clear urine, it comes from the bladder, and in that case it often stops up the passage from the bladder by coagulation; if the blood is distributed through the urine, partly dissolved, and not in very large quantity, it comes from the kidneys; if it be dark, and mixed with mucus and pus, it owes its origin to an ulcer. The presence of stone-colic shews that the blood has been poured out during the descent of a renal calculus.

Blue urine has been observed, though not frequently; in the majority of cases it probably owes its origin to the use of certain medicines; black urine has likewise been observed; the connexion however is not yet known between the colouring matter and the morbid process; greenish urine indicates, according to Prout, an oxalic acid diathesis; sediments of oxalate of lime form, or mulberry calculi pass away; a urine, which is pale-coloured, and has a bias to green, frequently indicates the presence of albumen, which is readily detected by heating to boiling or by nitric acid. In this case the urine is not perfectly clear, but slightly opalescent; its quantity may be increased, diminished, or natural. The oxalic-acid diathesis of the urine indicates, according to Prout, functional disturbances in the chylopoietic system; albuminuria ordinarily indicates dropsy and an affection of the kidneys. The re-action of the urine is important for the physician. Natural urine, it is well known, has an acid re-action: the quantity of free acids in the urine and the intensity of the re-action may increase to an extraordinary degree in diseases, more particularly in rheumatism, gout, in disturbances of the digestive organs, and in certain stages of typhus; to judge correctly of the intensity of the acid re-action, reference must be had to the quantity of the urine; the greater or less acid re-action is known by the effect of the urine on litmus paper of a weak blue colour, which becomes coloured so much the more rapidly and the more deeply reddened, the greater the acid contents of the urine are. Urine with a neutral re-action commonly forms the transition from the acid to the alkaline re-action, and *vice versâ*. The alkaline re-action of the urine is of great importance to the physician; it commonly depends on carbonate of ammonia, the presence of which is recognized by the odour,

and the white cloud, which a glass-rod developes when moistened with an acid salt and brought near to it. The urine also may have an alkaline re-action through its containing carbonate of soda, which salt finds its way into the urine by the long-continued use of carbonate or bicarbonate of soda with vegetable acids. The urine alkaline by carbonate of ammonia is but seldom evacuated in this state from the bladder; during its discharge it is commonly neutral, and becomes alkaline only in a shorter or longer time after; badly-cleaned vessels may moreover contribute much to this, a circumstance which ought to be taken into account. Urine which already on voiding it has an ammoniacal re-action, and has also a very bad smell, indicates always a serious affection of the nervous system, and especially of the spinal cord. In certain unfavorable stages of tabes dorsalis, phthisis of the spinal cord, paralysis of the lower extremities and of the bladder, the voiding ammoniacal urine is ever an unfavourable sign; in other affections of the nervous system also, as in typhus, ammoniacal urine is observed, which however assumes this re-action in the majority of cases not till after it has stood for some time. In typhus the re-action of the urine may be of importance for the prognosis when the urine, after it was observed to have an acid re-action through one, two, or three periods of seven days, is finally found to be neutral, and then to have an ammoniacal odour and re-actien; when this re-action lasts for several days, probably during one entire period of seven days, and then again passes into the acid, this seems in most cases to indicate a favorable termination to the disease. The urine having an ammoniacal re-action in typhus has usually a dirty, turbid, yellow-brown or red-brown appearance, and forms sediments which disappear in a great measure on the addition of free acids; also in catarrhus vesicæ, or in phthisis vesicæ the urine becomes ammoniacal in a very short time after being voided; the large quantity of vesical mucus or pus indicates this affection; finally, the formation of urinary concretions, consisting of earthy phosphates, is in part occasioned by the neutral or alkaline re-action of the urine; the urine voided in this urinary affection, is not so dark as the urine in typhus, and commonly forms sediments of phosphate of lime, and of ammonio-magnesian phosphate. If the vesical calculus exercise an irritating influence on the parietes of the bladder, a great quantity of vesical mucus is commonly mixed with the urine.

The specific gravity of the urine, though by itself it possesses no great diagnostic value, as it depends on the variable quantity of water in the urine, may however claim the attention of the physician under certain circumstances; the clearer and the more like water the urine appears, the less is its specific gravity; the deeper and darker-coloured, the higher the specific gravity. This general law may admit an exception in one case, namely, in diabetes mellitus; in this disease a urine is voided either normal or pale, seldom deeply coloured, the high specific gravity of which (1020—

1060) is in contradiction to the colour; this high specific gravity imperatively requires a more strict examination of the urine. More than all other signs the correct examination of the sediments is of importance for the physician. Healthy urine forms only after long standing a light, sinking cloud of vesical mucus; every other separation in the urine is of a pathological nature. The urinary sediment consists either of organic formations, as mucous corpuscles, purulent corpuscles, blood, &c., or of heavy, insoluble salts or acids, or lastly of an admixture of both; the microscope will throw light on this.

The sediment consists of organic formations. If the urine has not a blood-red colour, the sediment is white, grey, dirty-yellow, and with the microscope can be seen mucus, or pus-corpuscles; here the sediment is constantly mucus, if the urine contain no albumen; it is probably pus, if the sediment is deposited rapidly after the urine is voided, and the urine contains albumen. It is not necessary now to state of what importance it is to discover and appreciate mucus and pus in the urine; in catarrhus vesicæ the mucus sediment frequently assumes a very glutinous quality; this however happens only when the urine begins to become ammoniacal, which in urine containing mucus, often occurs in a very short time, as we have already mentioned; the same may be said of pus, and it is good in this case to test the presence of albumen not by boiling heat, but by nitric acid. If the sediment is blood, the blood-corpuscles are then seen with the microscope; the urine standing over this is also of a blood-red colour. Of the import of blood in the urine I have no remark to make. If the urine contain albumen, and there exist at the bottom a mucous sediment, it is of great importance to examine this with the microscope. We may find therein, as I have observed, peculiar long prominences, partly filled, partly transparent, and round spheres, twice or thrice as large as mucus-corpuscles, filled with dark, granular contents, which beyond a doubt have their origin in the kidneys, and denote a morbid state of this organ. These peculiar forms I have frequently and at different times found in the urine of a person labouring under morbus Brightii.

The sediments which are not of an organic nature, may in like manner be easily recognized with the microscope and some few re-agents; they are either crystalline or amorphous, present themselves either in acid, neutral or alkaline urine, and are readily distinguished; in acid urine sediments of uric acid present themselves, urate of ammonia, urate of soda, oxalate of lime, cystin. The greatest number of sediments which present themselves in acid urine consist of urate of ammonia; less frequent are those consisting of uric acid, still rarer are those consisting of oxalate of lime, and the most uncommon of all are those consisting of cystin. Sediments consisting of earthy phosphates do not occur in urine having a strong acid re-action. Every sediment occurring in acid urine from yellow to brown from red to purple red, appearing

under the microscope as an amorphous precipitate, or as large and small globules aggregated together, which is dissolved entirely or almost entirely on warming the urine, is urate of ammonia; to this belong accordingly all the so-called critical separations in the urine; the species of separation of the urate of ammonia is very various, and it appears sometimes as mere turbidness, without forming any sediment whatever, sometimes it lies at the bottom of the vessel as coloured mucus or pus, at other times heavy, like an earthy precipitate. In the case of those diseases, which in the course of their development admit a termination by a critical separation in the urine, the kind of separation is of importance. The heavier the sediment lies at the bottom, and the clearer the urine is that stands over it, the more decided is the crisis allowed to be; whilst the lighter the sediment floats, and the less disposition there is to a perfect deposition, the more imperfect is Nature's effort to break down the disease by a crisis. The various colourings of the sediment are characteristic for some diseases; in acute rheumatism of the joints, in intermittent fevers, the critical sediment is observed to be coloured red up to a brown red; in acute diseases of the liver the sediment is rose-red; in typhus it has a dirty-red colour; in some diseases the appearance of the sediment appears to be of no constant critical import, as, for example, in typhus.

A sediment in the acid urine, which is not dissolved on heating the urine, and which appears crystalline when observed either by the unarmed eye, or with the microscope, and is coloured yellow up to vermillion red, is uric acid. It ordinarily appears in the form of rhombic plates, and in the majority of cases mixed with urates of ammonia, where it then forms the undermost and dark-coloured layer of the sediment. That the deposit of uric acid is of critical import, is scarcely to be doubted; in gout and in cases of renal calculi, where the deposits consist of uric acid, uric acid or the discharge of gravel form the most perfect crisis; in many other diseases we still want the necessary observations concerning the critical value of uric acid secretions. The sediment of oxalate of lime presents itself more rarely than those before mentioned; it usually forms a white precipitate; observed with the microscope, it appears in the form of small octoedra, or of little spheres arranged one by the other; it is not soluble in acetic acid, but readily in hydrochloric acid; when sulphuric acid is poured on it it disappears, and after some time long lancet-formed plates of sulphate of lime are seen.

Respecting the diagnostic value of the oxalate of lime in the sediment sufficient observations are still wanting; it is probable that it is connected with serious disturbances in the chylopoietic system; that we should be attentive to the possible formation of stone of oxalate of lime, where the sediment shews itself frequently and permanently in the urine, is of importance; however, the physician, in order to judge of the phenomena more correctly,

must also have reference to the diet, as oxalic acid may be conveyed into the body by various sorts of food.

The occurrence of cystin in the urinary sediment is very rare. It is easily recognised by its remarkable form; it forms faint yellow-coloured hexaedral plates. According to Prout, the appearance of cystin in the urine is a very unfavourable sign, it indicates the formation of cystin calculi.

In neutral urine, or that with an alkaline re-action, besides the sediments already mentioned, precipitates of earthy phosphates present themselves; they are readily known by this; that they disappear on acidifying the urine with acetic acid or acid salts: the phosphate of magnesia, commonly combined with ammonia, is distinguished by its crystalline form; it appears in colourless prisms obliquely truncated, very frequently in the form of a roof; the calcareous phosphate appears almost always as an amorphous precipitate; as the earthy phosphates are constantly present in the normal urine, their precipitation is commonly to be looked on as a consequence of the formation of ammonia, the free acids by which the earthy phosphates were previously dissolved being neutralised by this alkali; in some cases, on the contrary, the appearance of earthy phosphates in the sediment is of diagnostic value. In affections of the spinal chord the phosphate of magnesia, more especially, appears to be secreted in great quantity; in affections of the mucous membrane of the bladder, the phosphate of lime appears in large quantity; in three cases of inflammations of the respiratory organs, at the time when resolution of the disease set in, I have seen the previously acid urine become neutral, and have observed, as a precipitate, the secretion of a considerable quantity of already formed crystals of ammonio-magnesian phosphate, perceptible to the naked eye, at the same time that in two of these cases the clear urine held so large a quantity of urate of ammonia in solution, that precipitates of uric acid were instantly produced by every acid. When calculi of the bladder are present, which consist of earthy phosphates, the urine frequently contains sediments of earthy phosphates, with which a greater or smaller quantity of mucus is mixed. In scarlatina the urine is observed to be turbid at the time of the desquamation, often also before the occurrence of the same on the outer cuticle; when it is observed with the microscope, an extraordinarily great quantity of the epithelium of the vesical mucous membrane is seen in it. It is, therefore, to be admitted, that the desquamation goes on also on the mucous membrane of the bladder; and if, as frequently appears to be the case, the scaling off takes place earlier on the mucous membrane of the bladder than on the external skin, one may determine the commencement of the scaling off by examining the urine.

The knowledge of the chemical composition of the urine is of very great value for diagnosis and prognosis; especially as far as concerns the presence of matters which are not found in the normal state of the urine: albumen is readily discovered in the urine by heat or by the addition of nitric acid; if the urine is acid,

heat is preferred; if alkaline, nitric acid. The presence of albumen in the urine is always of great import, and the correct estimation of the same as a means of diagnosis not altogether easy: cases are known in which albumen was observed in the urine of healthy individuals, or set in in consequence of disturbance occuring in the digestive organs; in the great majority of cases albuminuria is the attendant of dropsical phenomena, or the forerunner of them, the urine is then commonly clear, evinces a tendency to green, and contains much albumen; but there are cases of dropsy known, which set in altogether without albuminuria. That the presence of albumen in the urine does not infer the presence of Bright's degeneration of the kidneys, has been sufficiently proved; where degeneration of these organs is suspected, great attention must be directed to the mucous sediment of the urine. In violent inflammations, as well as in typhus, small quantities of albumen are sometimes found in the urine; the urine is then generally very dark, and has an acid re-action; according to Becquerel, this appearance of albumen in cases of inflammation appears to be connected with a congestive state of the kidney, and as this, unless the disease is itself an inflammation of the kidneys, seems to occur only in very violent and intense inflammations, the appearance of albumen in the urine accompanying inflammation might be a sign of the intensity of the inflammation. In consequence of inflammatory exanthems, especially in the desquamatory stage of scarlatina, albumen sometimes is observed to exist in the dark-coloured urine, and sometimes, though, more seldom, blood. It is, therefore, a matter of importance for the physician carefully to examine the case, as this heterogeneous mixture is not unfrequently the fore-runner of dropsy; however, dropsy has been observed after scarlatina without albumen in the urine, and albumen in the urine without dropsy following thereon. At the commencement of diabetes mellitus, albuminuria is no rare phenomenon, and of great importance to the physician. The occurrence of albumen in this case is not constant, but alternating, it appears, before a trace of sugar can be observed, and when the sugar begins to form, it sometimes ceases again, and passing off, it gives way to the albuminuria.

To demonstrate the presence of sugar in the urine is the principal means of satisfying oneself of the existence of diabetes mellitus. If the quantity of sugar is considerable, it is easily discovered in the alcoholic extract of the urine after evaporation; if only traces of sugar are present, the sulphate of copper is used to demonstrate its presence, as we shall see at another time.

Gall pigment in the urine is constantly a sign of the liver being affected; we have already stated that this can be discovered by the addition of nitric acid; but to infer the presence of gall pigment from the colour of the urine is sometimes fallacious.

Med. Chir. Rev., July 1843. *p.* 38.

15.—ON EXOSTOSIS OF THE SPINE.

By Francis Battersby, A.B. M.B., &c.

Exostoses, or bony vegetations, arising from the bodies of the vertebræ (independent of any disorganization of these bones) are by no means of rare occurrence; most pathological collections contain numerous examples of their different stages, especially of what seems their natural termination, viz.: perfect anchylosis of the affected bones.

This anchylosis may be more or less extended, affecting but two neighbouring vertebræ, or perhaps the greater part, more rarely the entire of the vertebral column, while the new bony material is found to vary from a thin lamina to a prominent and rough projection, occupying the situation of, or more properly covering, the subjacent intervertebral cartilage.

[Few writers have alluded to this subject. Wenzel is the only one who treats of it in detail, and even he does not connect with it any well marked symptons during life. Although the affection may have advanced to complete anchylosis, there may be an absence of all severe pain when the bone is handled; which is remarkable, considering the displacement and injury those important nerves must undergo which are so closely connected with the front of the spine, more particularly in the lower part of the dorsal and lumbar regions. Dr. Battersby relates some interesting cases to prove that these nerves do occasionally suffer from the disease giving rise to a train of most painful symptoms which have baffled the diagnosis of the most skilful practitioners. One case particularly is related which proves this. A train of the most painful symptoms terminated in the death of the patient.]

On displacing the abdominal viscera, the inter-vertebral spaces of the lumbar region were at once observed to be singularly prominent, the cartilages being partially faced with irregular bony protuberances, so as nearly to unite the adjoining bones. A section of the vertebræ was removed, and a large nervous twig was discovered lying stretched over the most prominent of the new formations which engaged the sides of the vertebræ. The anterior vertebral ligament had a marked glistening appearance, and on dissection proved to be very much thickened, while underneath it was formed a new dense structure of a fibrous nature, in which all the characteristics of the periosteum were lost, and the surface of the bones, to which it was intimately adherent, was rough and irregular. There was no distinction between the fine cancellated structure of these and their new processes. The bones were quite healthy, as also the cartilages.

The spinal canal was opened from the sacrum to the middle of the dorsal region. There was about an ounce of clear fluid in the interior of the sheath of the cord, which, like its membranes, was

perfectly natural. The only irregularity here discoverable were two little points of bone on the posterior aspect of the bodies of the dorsal vertebræ, which felt through the dura mater, which was unremoved, about the size of pins' heads. The openings for the nerves were perfect.

This gentleman's sufferings, for the space of nearly two months, could not be surpassed. The extent of the torture he endured could scarcely be imagined by any one who had not witnessed it, and most distressing it was for those who did, not to be able to afford the least relief, except by the administration of opium, which was given in increasing doses, so that towards the conclusion, he used to consume more than a scruple of muriate of morphia daily, and that merely with the effect of mitigating the pain.

The new bone, in occupying the situation of the lumbar ganglia of the sympathetic, gave rise to the symptoms of visceral neuralgia, by irritating these and their branches, while the same irritation communicated through the lumbar nerves (which are in direct connexion with the former) to the spinal cord, its functions became deranged both above and below the point of irritation, exhibiting what Dr. Marshall Hall denominates, the morbid, direct and retrograde, action of that part.

I am not disposed to consider as of any importance the points of bone found projecting into the spinal canal, they seemed too minute to cause any bad effect, but it is not improbable that the constant dull pain in the back was due, in part at least, to the state of chronic inflammation in which the ligamentous structure in front of the spine must have been. The progress of the paralysis was very remarkable as pointing to the spinal origin of the symptoms. It first appeared over the upper part of the abdomen, then attacked the lower extremities, and lastly, the integuments of the chest and arms."

Dublin Journal of Medical Science, Sept. 1843, *p* 77

16.—ON HEMOPTYSIS, PULMONARY APOPLEXY.

By Dr. Graves, Dublin.

As there are two sets of vessels from which the blood sent to the lungs is derived, the bronchial and the pulmonary, so also are there two sources from whence hemoptysis may derive its origin. Now, as is observed by Dr. Graves, the bronchial artery destined to supply that blood which is necessary for the nutrition of the pulmonary texture is small, and its blood arterial or red, while the pulmonary artery on the contrary is large, and transmits the whole of the dark venous blood of the system from the right cavities of the heart through the lungs. It is sufficiently obvious, therefore, that the danger to the patient, and consequently the

importance of the symptom, will be materially modified by the source from which the blood expectorated or poured out into the pulmonary structure is derived. Dr. Graves, from considerations arising out of the minute anatomy of the lungs, which it would be impossible to enter upon here, endeavours to show, "that when hemoptysis, from the engorgement of the system of the pulmonary artery, takes place, it is in consequence of the direct effusion of blood from the branches of the pulmonary artery, which ramify on the air-cells, and that the blood expectorated on such occasions has nothing to do with the bronchial mucous membrane, or bronchial arteries;" and further that the blood may escape also into the inter-vesicular pulmonary tissue, where, having no exit like the portion which is thrown out into the air-cells, it must remain. The union of these two forms of effusion from the minute branches of the pulmonary artery constitutes the disease termed pulmonary apoplexy; but it is important to be aware that the affection characterized by all its essential symptoms may occur without hemoptysis, an instance of which is quoted by Dr. Graves from the Dublin Medical Transactions. Are there any sufficient characteristics by which it can be ascertained whether the blood in expectoration is derived from this formidable source, or whether it comes from the bronchial artery? Let us see what Dr. Graves himself says upon this point:—

"In the first place the blood (from the pulmonary artery) is black, as you can perceive when it is spit up. It is also clear, that if this blood be detained for some time in the air-cells and bronchial tubes, it will become coagulated, and be spit up in clots. Many of the worst cases of spitting of blood are attended with this symptom; and it is not [?] a mistake to suppose, as you see it mentioned in books, that blood expectorated from the lungs should be florid and frothy. You are told, gravely, that you can distinguish blood discharged from the stomach from that which is discharged from the lungs, by the difference of its colour, consistence, and the presence or absence of air-bubbles. No, gentlemen, you cannot. If you see blood spit up which is dark and coagulated, and, from stethoscopic examination, have reason to think that it comes from the lungs, you will be convinced that the effusion is from the pulmonary artery. I do not mean to say, that when blood comes from the pulmonary artery it is always black and clotted; but I assert that it is so in a great majority of cases; and in many cases of pneumonia we find the sputa partake more of the venous than the arterial character, a circumstance which indicates its formidable source. It is obvious that the blood spit up in those cases may also have a florid tinge, where it has been imperfectly aerated by the imperfect action of air bubbling through it before it is expectorated. There are some hemorrhages, also, from the bronchial artery, which are very copious; but, generally speaking, where there is much cough, constriction of the chest and fever, it is the bronchial mucous surface which is

affected; and the spitting of blood which, in such cases, comes from the bronchial arteries, is but scanty, and is seldom dangerous. The blood will be found to be effused from small spots, as in epistaxis, and the quantity is generally small. You will, however, sometimes find an instance of a person spitting up, very copiously, blood of an arterial colour; for it must be borne in mind, that a very small surface of mucous membrane may often bleed most copiously, as is seen in some cases of epistaxis, when the blood issues from an insulated and small spot. Such cases of copious bronchial hemorrhage occur occasionally, are unconnected with bronchitis, and depend on some peculiar hemorrhagic tendency."

The chief source of the immediate danger in cases of congestion of the pulmonary artery leading to hemoptysis, is not then from the amount of blood lost to the system, but from the plugging up and obliterating of the ultimate divisions of the air-tubes by the blood effused into and around them. This is important to be borne in mind as a guide to practice, since no hesitation need be experienced, at least in the outset of the attack, in attempting the relief of the congested state and the consequent arrest of the further progress of effusion by copious depletion. The effusion from the branches of the bronchial artery, on the other hand, is seldom extensive, and is derived, Dr. Graves thinks, in phthisical cases in which it is of such frequent occurrence, rather from the congested state of the bronchial membrane so commonly connected with that affection, than from ulcerative action implicating the vascular tissue. We regret that we cannot follow the author throughout the many important questions which are here brought before us, but we must rest contented with recommending his views to the close attention of our readers, and referring them for comparative illustration to the work of Reissessen, and the paper recently published by Mr. Addison in the Transactions of the Royal Society, on the minute structure of the lungs, to the article Hemoptysis in the Cyclop. of Pract. Med. by Dr. Law, and Dr. Townshend's Essay on Pulmonary Apoplexy. We have already stated that in cases of pulmonary apoplexy no hesitation should be experienced in the employment of free depletion; after this has been practised, the remedy in which Dr. Graves reposes most confidence is ipecacuanha given in doses of "two grains every quarter of an hour, until there is some improvement, and then every half hour or hour, until the bleeding stops." We are indebted to Richter for first making known the powers of ipecacuanha in restraining hemorrhage, the effects of the remedy being not confined to hemoptysis. Dr. Graves recommends that its employment be preceded by a purgative enema, and a saline cathartic, and states that it may be given with advantage in hemorrhage from the bowels, and even in hematemesis, he preferring it to the acetate of lead, which he employs only in those cases of passive hemorrhage in which opium is indicated, and then in combination with the last remedy.

"I look on tubercular development and consumption as the consequences of that particular state of constitution, which occasions what is falsely termed tubercular inflammation, a state of constitution in which we have three distinct processes, attended by corresponding morbid changes, each different in itself, but depending on one common cause. Every form of consumption, which has hitherto come under our notice, is referrible to one common origin, and this is that debilitated state of constitution which has been termed the scrofulous habit. One of the first tendencies of this habit is to the formation of tissues of an inferior degree of animalization, among which I class tubercles, whether occurring in the lungs, brain, or liver, whether they exist in a minute or granular form, or in large, soft, and yellow masses, or in the state of tubercular infiltration. I look on them as one of the first of those morbid changes dependent on a peculiar constitution of body, and most commonly found to accompany it. The weaker the constitution is, the greater tendency is there to generate tissues of a lower degree of vitality, and, on this principle, I think we can explain the occurrence of entozoa and hydatids. There are some cases in which you will never be able to prevent the generation of intestinal worms, until you direct your attention to the source of the evil, which lies in the weakness of the constitution, for, in such a state of the system all animals are liable to the formation of parasitic productions and tissues imperfectly animalized. I look on tubercles in this light, and not as the consequence of inflammation, nor do I consider that it has been proved that tubercular development is the cause of phthisis."

Dr. Graves contends that in all cases of phthisis "the pectoral symptoms, of whatever nature they may be, are caused by scrofulous inflammation," by which we presume that he means, inflammation as it occurs in individuals of a scrofulous diathesis, and he proceeds to compare the progress of ulcerations of the lungs with that of external scrofulous abscesses. There is, he observes, the same slowness, the same insidious latency, the same gradual solidification and gradual softening; the puriform fluid secreted is similar in characters, while there is the analogous occurrence of burrowing ulcers and fistulous openings with close approximation in the form of thin parietes, and difficulty of healing in each; and at the same time constitutional symptoms identical in nature; hectic flushings and sweats, diarrhœa, emaciation, &c. equally accompany phthisical suppuration of the lungs and scrofulous inflammation of the joints or other external parts. With these views, therefore, we are not surprised to find Dr. Graves entertaining the opinion that tubercle, though a most frequent accompaniment of phthisis, is neither the essential cause of that disease nor a necessary product. Scrofulous inflammation is with him the *fons et origo*, the real and efficient cause of phthisis, whether tubercle be generated in the course of the diseased action

or no, and thus we have scrofulous pneumonia and scrofulous bronchitis equally productive of phthisis without the presence of one single tubercle or spot of deposition of tubercular matter, either in the pulmonary tissue or on the bronchial membrane. In the latter case, scrofulous bronchitis, it is urged by Dr. Graves that the accompanying fever presents all the material phenomena of phthisis; there is the same emaciation, frequently the same incurability; the same means tend to its aggravation or benefit, and the same scrofulous pus is secreted although not mixed as in cases of true phthisis with broken-down tubercles.

"We may, therefore, have tubercles without either the pneumonia or the bronchitis; and we may have scrofulous pneumonia often ending in slow burrowing suppuration, and proving fatal without any tubercles being formed. In like manner, a person may die of scrofulous bronchitis without the occurrence of either tubercles or pneumonia. Of these three effects of scrofula, it may be remarked, that, owing to their cause and origin being the same, they are most frequently found in combination. The same diathesis which produces one may give rise to the others; hence the frequency of their association; hence it is that they generally occur together."

The form of phthisis in which this practice is stated to have proved successful in effecting a cure, is where the lungs become affected before any general contamination of the system takes place. "It is in such cases, and such only," says Dr. Graves, "that mercury ought to be tried, and it will avail nothing except when the commencement of the scrofulous inflammation of the lung has arisen suddenly, and in consequence of the operation of some obvious cause, as catching cold or the occurrence of hemoptysis." Some instances are related of the good effects of this plan of treatment, and the observations of Dr. Munk on the same subject quoted at length from the Medical Gazette. The practice is not altogether new, but has been before recommended and followed by Dr Rush, and some other American physicians. They, however, failed to indicate the class of cases in which it was calculated to prove of service, and the indiscriminate employment of the method, and its consequent want of success in a vast number of instances may probably have been the cause of its having fallen into disuse. In the cases in which the mercurial treatment proves applicable, the tubercular affection, however, would seem to be of only secondary importance, so that this method appears to be chiefly serviceable in scrofulous pulmonary inflammation, rather than in tubercular phthisis, affording an additional reason derived from curative indications for retaining the term phthisis in its more definite sense.

Brit. and For. Med. Rev., July 1843, *p.* 248.

17.—ON THE TREATMENT OF CHOLERA.

By C. Serle, M.D., Bath.

The symptoms of cholera are the following:—vomiting and purging, with general debility, under ordinary circumstances of attack, and apoplectic seizure in extreme cases; serous evacuations, arrest of the secretions of bile, urine, &c.; coldness and lividity of surface; inflammation of the stomach and bowels; cold sweat; coma; a train of symptoms strikingly characteristic of the influence of a poison upon the system, whose operation is to arrest or impede the primary function of life—capillary action. The principal indications of treatment arising out of these views of the disease are obviously to supersede the poisonous agent upon the system, or, in other words, to restore excitement to the capillaries, and to purify the blood from the presence of the poisonous cause. These indications, the following observations, the result of long experience and particular attention to the effects of mercury upon the system, lead me to say, are all to be fulfilled by this remedy; the primary operation of which I believe to be specific upon the capillary vessels, exciting them to increased action, by imparting certain qualities to the blood, probably adding to its capacity for oxygen, or otherwise increasing the affinities between the oxygen of the blood and the other elements of its composition, and thereby developing increased chemical action. Hence the general influence of mercury upon the system, its renowned deobstruent power, as well as its operation on the glandular system, in increasing all the secretions. The more obvious and immediate effect of mercury on the liver, as evinced by the operation of two or three grains of calomel almost with certainty producing a bilious evacuation, is doubtless attributable to its primary and direct influence upon the liver, to which, when absorbed from the stomach and bowels by the veins of these organs, which form the roots of the vena porta, it is first conveyed, before it enters the general current of the circulation. Its operation in exciting the capillary arteries, and thereby secretion, necessarily removes obstruction from the exhalents, and congestion from their venous terminations, and thus is exudation prevented and absorption increased; and hence the accredited action of mercury upon the absorbents in removing the various serous exudations. Its power of increasing capillary action is further evinced by the febrile commotion it excites in the system, and the buffed blood of those under its more abundant influence; effects, on the exhibition of mercury, which should be guardedly watched, as, when they arise, necessarily prohibiting its further employment, and which exhibit to us that the indications for its use in inflammation are limited to the atonic stage, and that in no case should it be given in the active condition involving the heart's

excitement, save in very guarded doses, and then only in conjunction with other evacuants. But when the more active condition of inflammation has been moderated by bleeding and other evacuants, or debility has succeeded to excess of febrile excitement, its administration then supports the due action of the vessels, excites the secretions, and invigorates the heart, in common with the rest of the functions, and becomes our chief remedy; and, carried to the extent of producing ptyalism, which appears to mark its ultimate effects for good, it is of all remedies the most valuable.

In thus viewing the operation of mercury upon the system, it would appear a specific or a directly antagonist agent to the cause giving rise to this disease; and experience justifies me in saying that, of all remedies, it will prove the most useful, given in large and frequently repeated doses, commensurate with the diminished absorbing power of the stomach and susceptibility of the system to its influence. Its operation, or rather its introduction into the system, should be assisted by diminishing the congestion of the brain and vascular fulness of the stomach by small bleedings cautiously practised, when indicated, as with persons of full habit, and in others where the excretions of the bowels, which I look upon as curative efforts of the system, are not excessive; and its employment preceded by securing a clear stomach, by the agency of a stimulant emetic, as of mustard-flour, or culinary salt. And as accessory agents to the operation of the mercury and to the treatment of the disease, recourse should be had to diffusible stimulants, as ammonia, warm brandy and water, and the like; and, above all things, the inhalation of oxygen, or the nitrous oxyde gas, where either of these are to be obtained; and where not, the ammoniacal gas might be cautiously tried with prospect of benefit. Stimulating saline enemata are also useful remedies, and especially so when vomiting is a troublesome symptom. Warm stimulating frictions of the skin, with sinapisms to the spine, præcordia, and extremities, are also essential auxiliaries, with especial attention that the patient preserves at all times the recumbent posture.

And thus, as in the cold stage of fever, of which the symptoms of cholera are but effects of an analogous character and a more exalted kind, we may continue these remedies in a ratio with the severity of the symptoms till excitement becomes developed, and the mercury (calomel) till the secretions of the liver, which are first green, and often spinach-like, become of fluid yellow appearance; moderating the excitement at the same time, if it becomes too exalted, by antimony, saline aperients, or castor-oil and a cooling beverage. And we should carefully watch and guard the organs previously congested, from gastroenteritis, or other inflammation, which too often becomes developed, by the timely application of leeches, for which reason, and also to more perfectly purify the blood, it is in my opinion advisable to continue the mercury to the effect of inducing gentle ptyalism, and, as the influence of the

mercury subsides, to administer the quinine to the extent of three or four grains per diem till health is established.

M. Mialhe, it has recently been announced in the pages of the Lancet, states that the action of mercury upon the system is consequent upon its becoming converted into a bichloride by the hydrochloric acid of the stomach, and proposes, therefore, a solution of the bichloride as the ordinary mode of its administration. The idea appears to me to be well deserving of attention, and especially so in the treatment of cholera, in which the secreting and absorbing powers of the stomach are so much impaired as, indeed, to be rendered often nugatory, defeating all our attempts to influence the system through the medium of this organ; to which cause I believe it to be, in a great measure, that the disease proves so often fatal, and which led me some years ago to suggest the inhalation of mercurial vapour, the lungs being the most actively absorbing surface of the whole body. M. Mialhe gives the following form for what he designates a normal solution of the bichloride of mercury, as the most favourable form for its admission into the blood, and which accordingly is recommended to trial: —

℞ Bichloride of mercury, five grains; chloride of soda; hydro-chlorate of ammonia, of each fifteen grains; white of one egg; distilled water, one pint.

Mix the albumen and water, and filter; then dissolve the salts in the solution, and again filter. One ounce contains half a grain of bichloride.

Lancet, July 8, 1843, *p.* 506.

18.—ON LOCAL HYSTERIA.

By R. B Todd, M.D., F.R.S., Physician to King's College Hospital, &c.

It is difficult to assign a cause for the fixation of the hysterical phenomena in particular localities. We have, indeed, very much the same difficulty here, as in explaining other examples of general or constitutional disease exhibiting local symptoms. It may be that, in many cases at least, the local symptoms should be regarded as reflected nervous phenomena, either of sensation or motion; some part of the great gastro-intestinal surface, or some internal viscus, being the seat of a primary disturbance, which creates an irritation of a portion of the nervous centre, and this affects some sentient or motor fibres connected with it, which propagate their irritation to some peripheral region. Or, again (and this, perhaps, is of rare occurrence), there may be some immediate irritation of a part of a nervous centre, not propagated from any sentient surface, but caused by some local disturbance of the circulation, and, consequently, of nutrition. Or, lastly (and this is not unfrequent), the patient may have received a strain or

hurt at some part, and her attention being strongly directed to that part, and her anxieties aroused respecting it, that part has become the seat of a fixed pain. And even if there has been no previous injury, there can be no doubt that a part may become irritable and painful, about which the patient's thoughts and anxieties have been occupied for a considerable time. I could quote to you many authentic instances of this power of the mind to create pain, as it were, or to perpetuate it, after it had been excited by some physical cause. But it must suffice for me, at present, to direct your attention to the fact as one of which it is most important that the practitioner should be cognizant.

I do not profess to give an account of *all* the forms that local hysteria may assume, so many and so various are they. I shall, however, briefly refer to the principal varieties that are likely to bemet with in practice.

Pain in the Side.—Among the most common form of local hysteria are those pains in the right or left side; of these I believe the most frequent is that on the left side; the pain is referred to a spot immediately beneath the left mamma, corresponding very nearly to the situation of the apex of the heart. In most cases the pain is increased on pressure; sometimes, however, firm and steady pressure gives ease, and I have sometimes observed patients to make pressure themselves, in order to obtain some relief. It is quite extraordinary what a common symptom this pain is, or that on the right side. If you watch the out-patients of this hospital for a day or two, you will find a large proportion of the female applicants complaining of pain in the left or right side. It is very frequently (that on the left side especially), accompanied with leucorrhœa or some form of uterine derangement, so much so, that now, after I have learned that a young woman of hysterical appearance complains of this pain, my next question invariably refers to the existence of leucorrhœa.

In some instances this pain is always increased on inspiration, and is attended with a short but frequent cough, without expectoration. If there be any emaciation, or if there has been phthisis in the family, the fears of the patient's friends become excited, lest this cough and pain should be the forerunners of consumption. And it is not always easy to assure oneself that the irritation of nascent tubercles may not have some share in the production of the phenomena. Some time ago I was consulted in the case of a young lady of good family, who, from a long-continued pain in the left side and frequent cough, was considered to be phthisical, and, in consequence, was kept in a regulated temperature for a considerable period. By several very careful examinations of the chest I felt myself at liberty to pronounce her free from tubercular disease, and prescribed an opposite mode of treatment, good air, carriage exercise, and tonics, with great advantage; and now I sometimes see this lady, who enjoys good health, but is subject to

the occasional recurrence of this pain in the side and cough, whenever any irregularity occurs to excite her hysteria.

Irritable Spine.—The irritable spine is another form of local hysteria, which, if treated on erroneous principles, or if its real nature be not detected, may lead to very serious consequences. This affection has been deemed of sufficient importance, by some practitioners, to merit its being designated by the special name of *spinal irritation*. But this term is highly objectionable; for it implies that the essence of the patient's malady is to be found in the spinal affection, and that the treatment is chiefly to be directed to relieve the local suffering. And many who have written upon this subject have striven, on very insufficient evidence, to show that the spinal cord itself is at fault. The truth, however, is that the spinal irritation is but a symptom of a general state, a local malady depending on a constitutional cause.

These cases are often mistaken for actual disease of the vertebræ, and patients have been confined to the recumbent posture for its cure, a mode of treatment admirably calculated to perpetuate the real complaint. It often happens that the patient has difficulty in walking, and this is regarded as the consequence of the spinal affection. She at first finds herself easily fatigued; the pain in her back is increased by walking or standing; she gradually becomes disinclined to move, and gets accustomed to the horizontal position, and therefore readily yields to any suggestions in favour of quiet, or reluctantly obeys the advice which recommends an opposite plan.

The most acute pain is felt over a particular spot on the back. Slight pressure will produce it, when the patient's attention is alive to it; and firm pressure will often fail to create it when her attention has been diverted from it. But there is always a good deal of tenderness in the whole course of the spine and in other parts also. You will derive great assistance in your attempts to distinguish the real nature of this affection, by attending to the nature of the pain; it is always of that *exaggerated* kind which I alluded to in my last lecture, as being characteristic of hysterical pain. It is much more acute than the pain which attends diseased vertebræ; it is more superficial, so as often to appear, as I believe it is, seated in the skin that covers the spinous processes. We had one of these cases here not long ago, which very forcibly illustrated the importance of a right diagnosis. A young woman, of highly hysterical constitution, was sent here for pain in the back and weakness of the lower limbs; she declared that she was quite unable to walk, although she could move her limbs very well as she lay in bed. There was great tenderness over two vertebræ in particular, but the whole spine was tender also. She had been treated for some time by rest, and her spine had been cauterised. We humoured her a little for a day or two, and then I thought it right to assure her that she could walk, and that she

must walk a little every day. I had her taken up and supported between two women, and by making her move about the ward in this way a little every day, and increasing the walk each succeeding day, she soon began to find out that she had the use of her limbs, and ere long was enabled to walk to the shower-bath.

I may remind you of another case still in the hospital, in which this plan of treatment was pursued with very striking success. This is the case of the woman named Collier, in Augusta ward, who has been so long under treatment. She was sent here completely paraplegic, and stated that she had been bedridden for ten years. On examining her I found some tenderness of spine, but no unnatural condition of it. The power over the bladder and rectum was unimpaired. She is highly hysterical and rheumatic also. The lower extremities, from disease, were completely wasted; she could not stand, but as she lay could move about her limbs freely. I encouraged her to expect a cure, and told her that she must exert herself. She was supported by the nurses and made to walk a little every day, and after persevering a few weeks in this treatment she was able to walk a little alone; by-and-by she got on with the help of a stick, and now she can walk up and down stairs without any assistance. Had we treated this poor woman on the supposition of her having spinal disease, she would have been bedridden all her life. And, indeed, I attribute the slowness of her recovery (for she has been several months under treatment) to the extreme atrophy of her muscles, and, as we may fairly assume, of her nerves too, which was brought on by the disuse of them for so long a time.

Pain in the region of the sacrum and in that of the coccyx are less common forms of local hysteria. They may probably be connected more directly with uterine irritation, and in some instances, perhaps, with imperfect action of the rectum, and accumulation of flatus in it.

Local Pulsation.—We had lately a case in which this form of local hysteria was very well marked; and it was accompanied with another symptom not uncommon in hysterical persons. This was a strong pulsation of the aorta in the epigastric region, simulating aneurism. For some time the pulsation appeared so strong, and was so circumscribed, that had I not known the decidedly hysterical character of the patient's constitution, I should have felt considerable apprehension on her account. However, as her strength improved, and her catamenia became regular, these symptoms disappeared.

Hysterical Affection of Joints.—The profession is much indebted to Sir Benjamin Brodie for having directed attention to the frequency with which local hysteria manifests itself, especially among the higher classes, in the form of affections of the large joints, simulating those diseases with so much accuracy that practitioners have frequently been misled by it. Sir Benjamin

states the remarkable fact, which no one is so well able to ascertain as a surgeon of his great experience, that four-fifths of the supposed cases of joint-disease which occur among the higher classes are hysterical. This statement ought to impress us strongly with the importance of being well acquainted with the peculiar features of these hysterical affections of the joints.

You will, of course, expect to find in these cases indications of the hysterical constitution; globus; perhaps occasional hysterical paroxysms; general irritability; enfeebled nutrition; pain easily excited on pressure at various parts of the body; irregular catamenia, or some uterine disturbance. The joints which are most frequently affected are the hip and knee. The patient keeps the painful joint quite at rest, being fearful of the least disturbance. When the joint is moved, she will call out with much more expression of pain than if there were actual ulceration of the cartilages, "There is always exceeding tenderness," Sir Benjamin Brodie remarks, "connected with which, however, we may observe the remarkable circumstance, that gently touching or pinching the integuments in such a way as that the pressure cannot affect the deep-seated parts, will often be productive of much more pain than the handling of the limb in a more rude and careless way." As, however, in most hysterical affections, if you can succeed in engaging your patient's attention about some other object, and thus directing her thoughts from her own sufferings you will find that the joint can be moved with comparatively little or with no pain. I need not, however, dwell upon this subject, for you will find it admirably discussed in Sir Benjamin Brodie's "Treatise on the Joints." and in a very interesting and practical little volume on "Local Nervous Affections," which I strongly recommend you to study.

Irritable Breast.—Another very serious form of painful hysterical affection is the irritable breast. It is not generally attended with swelling or enlargement. The irritability is excessive, and the patient shrinks quite as much from superficial as from deep-seated pressure, and even before she has been actually touched at all. These characters, along with the evidence of hysterical constitution, are sufficient to enable the attentive practitioner to distinguish the real nature of the affection.

Aphonia.—I have alluded to various forms of hysterical paralysis; you may have numbness in the course of particular nerves, or paralysis of motion, in some cases putting on the features of hemiplegia—in others of paraplegia. Hysterical aphonia must be regarded as of the same kind, the palsy or weakness affecting the muscles of the larynx. The patient is unable to speak, except in a whisper, and even then not without effort. It often begins and ends suddenly. Sometimes it remains after a severe hysterical paroxysm has passed away. This is a form of local hysteria of very common occurrence, and not likely to be

mistaken for any laryngeal disease, for respiration remains quite unimpaired.

Paralysis of the Bladder.—Hysterical paralysis of the bladder is also common, and much mischief may arise from neglect of constitutional treatment, and too close attention to the local affection. Sir Benjamin Brodie lays down the rule, that in these cases the catheter should not be had recourse to; and the only exceptions to it are in those extreme cases in which actual paralysis has taken place, and the bladder is likely to become diseased, if not artificially relieved. A similar want of power over the rectum may occur in hysterical women. I have known women complain that they were unable to expel the contents of the rectum, although they were conscious of fæces having passed into it. With respect to many of these cases of hysterical paralysis, there is much truth in Sir B. Brodie's remark "that it is not that the muscles are incapable of obeying the act of volition, but that the function of volition is suspended."

Spasmodic Affections.—Among the various forms of local hysteria we may class some singular spasmodic affections which often prove exceedingly troublesome; for example,

Laryngeal Affection.—In the woman Collier, whose case I have had occasion to refer to as an instance of paraplegia, we had an example of a spasmodic affection of the muscles of the larynx, very much resembling the spasmodic croup, or laryngismus stridulus, which occurs in children. This attack was always preceded by depression of spirits and hysterical crying; the breathing became difficult, and both inspiration and expiration were attended with a stridulous noise; there was also a loud barking cough, which could be heard at a considerable distance. The attack passed off as the temporary excitement disappeared.

Hysterical Sobbing.—One of the most singular cases I ever saw was that of a girl named Howe, ætat. 19, who was admitted in consequence of a peculiar spasmodic affection of the diaphragm, of a most severe kind, and which, while it lasted, was most troublesome and painful. This girl has been a long time in the hospital. At her admission, on the 28th of March, she stated that for the last three months she had been very subject to leucorrhœa. In other respects she was in good health. Her face has the aspect of hysteria; the full upper lip is very well marked. Four days before her admission, in taking down a bedstead, she fell and struck the right side of her abdomen. She suffered so much pain at the moment that she was obliged to rest for ten minutes; she then resumed her work and thought no more of the accident. In half an hour she was seized with a catching of her breath, and with pain in the right side of the abdomen. This continued for two or three hours, so as to interrupt her work, and then went off.

Her bowels were open at the time, but she is of costive habit. In the evening the catching of her breath and the pain returned; it now continued some time, so that she scarcely lay down during the night. Next morning there was great epigastric tenderness, and she was unable to bear the pressure of her stays. The catching of the breath and pain in the side continued to recur in fits till the morning of the 26th, when they discontinued, but returned in the evening, and have continued at intervals ever since. At our first visit we found her affected with this catching of the breath. It exactly resembled a violent fit of sobbing, unattended with flow of tears. There is a jerking movement of the neck from side to side with each sob, but the limbs are motionless. Any excitement increases the sobbing. It was much increased by our visit, and subsided after we left. On the 29th, whenever she was visited by myself or by the physician's assistant, the sobbing was brought on. The pressure of the stethoscope in exploring the chest was sufficient to bring it on. The upper extremities are now thrown into jerking movements, resembling those of chorea, shortly after the sobbing begins. The slightest touch on the epigastrium or tickling the soles of the feet brings on the paroxysm, even when her attention has been directed to some other object.

Her treatment consisted in free purging for the first few days, lest there should be any lodgment in the intestinal canal, and subsequently tonics. On the 31st her attacks ceased, and as she remained quite free up to the 5th of April, and her health was much improved, she was discharged. She was, however, readmitted on the 10th, with a recurrence of the paroxysms, without any apparent cause. They are accompanied with jerking movements of the upper limbs and tremblings of the lower ones, which give her an unsteady gait in walking. Pressure excites or increases the sobbing, particularly when applied on the right side; and if the pressure be continued, the sobbing becomes excessively violent, and the whole body is thrown into convulsive movements. The fits last for three or four hours, during which time the nurse is obliged to walk with her up and down the wards or passages; for she cannot remain still, during the whole time she is affected with jerking, chorea-like movements. It is extraordinary what a slight pressure will excite the sobbing. If she accidentally press the epigastrium herself it will come on; the weight of the bedclothes, the least pressure or even touch with the top of the finger, or even the near approach of the finger to the epigastrium, will excite it. She had followed a tonic treatment for a considerable time without any benefit to these paroxysms. I determined now to try a succession of blisters to the epigastrium. The first excited a very severe paroxysm; however, by perseverance in the use of them, she has not only become able to bear them, but the paroxysms have considerably diminished in frequency and severity, so that now she can bear a good deal of pressure without inducing the sobbing.

Sir B. Brodie has recorded a case very similar to this. A young married lady, who was liable to ordinary attacks of hysteria, complained of a tender spot on the anterior part of the abdomen, a little below the ensiform cartilage. The slightest pressure of the finger on it caused excessive pain, and was followed by violent agitation of the whole person, bearing a nearer resemblance to the convulsive motions of chorea than to anything else, and continuing for several minutes.

Hysterical Sneezing.—Women are sometimes attacked with violent fits of sneezing, coming on at particular periods and lasting for a considerable time. Of my own knowledge I am aware of but one instance of this, in a newly married lady, in whom the fits of sneezing used to come on early in the morning. There was, I had reason to believe in this case, great disappointment that the signs of pregnancy did not appear about the usual time; and it was curious that these attacks should have come on chiefly when the morning sickness would have shown itself in the early stage of pregnancy. Women who are expecting pregnancy become very familiar with the ordinary symptoms of it. Sir B. Brodie relates two cases of this kind, in which the fits of sneezing were severe, and do not appear to have yielded readily to treatment. In the case to which I allude no relief had been obtained when I last heard of the patient.

Lancet, July 15, 1843, *p.* 541.

19.—ON PROTO-IODIDE OF IRON AND ITS EFFECTS IN PHTHISIS.

This substance, as prepared by Professor Dupasquier, of Lyons, has been now for some years employed with success in the Hôtel Dieu of that city, as a remedy in cases of phthisis pulmonalis. Dupasquier's preparation differs essentially from that previously in common use under the name of proto-iodide of iron, which was in fact a compound of proto and dento-iodide of iron, with free iodine and peroxide of iron mechanically intermixed. It was solid and uncrystallisable. Dupasquier's salt, on the other hand, is reported to be a true proto-iodide, and though it is procurable in a solid form, it is in that case so deliquescent and apt to be decomposed by the atmosphere, that it is commonly kept in the form of a solution, in which condition it is unaltered by contact with the air. In this state it is a colourless inodorous liquid. The solution for administration in practice, as used by M. Dupasquier, consists of one part of the proto-iodide to five of water or mucilage, of which the dose varies from ten to twenty drops.

The first action of this substance, as noticed both in the healthy individual and in the subject of disease, is excitant, and is manifested particularly on the circulatory system. The pulse soon

augments in frequency, and the heat of the surface is considerably increased. In some cases symptoms of gastric disturbance, and irritation of the rest of the mucous membrane, supervene; anorexia and thirst may be present; the throat and fauces may become slightly inflamed, and may even exhibit a papular eruption. Nausea, vomiting, and constipation sometimes ensue. But it is in comparatively few instances that, after ordinary doses, symptoms are perceived of such intensity, and in nearly all cases they soon disappear. In any case the diminution or discontinuance of the remedy seldom fails to cause their disappearance. In the lapse of a fortnight or three weeks a decided tonic effect is made manifest; the pulse diminishes in rapidity while it acquires vigour, the heat of the surface decreases, and the patient gains flesh and strength.

In cases in which the effect of the remedy has been tried on a healthy person, the system at this period takes on a tendency to plethora, which is sometimes accompanied by dyspnœa, congestion of the lungs, cephalalgia, and other cerebral disturbances, as well as occasionally eczema, lichen, or other cutaneous affections. But these symptoms rarely exhibit themselves in any intense degree in phthisical subjects, whose cough and expectoration, however, notably diminish at this stage. M. Boissiére, who carefully watched the administration of the proto-iodide in twenty-seven cases at the Hôtel Dieu, Lyons, says "at the end of about a month after the first administration of the proto-iodide the expectoration has often decreased to a half, a quarter, or even an eighth of what it had been previously. I have remarked, in six cases, the cough and expectoration to cease entirely; in four of these the cessation occurred in about forty days, in the two others as early as the fifteenth day. I recognised marked beneficial effects of the proto-iodide in five out of six cases in which tubercles had previously existed in the lungs. In two of these I have noticed the complete cessation of the *bruit d'expiration* and *souffle bronchique*, with a return of the respiration to its natural state and a decided alleviation of the other symptoms: in one case, at the end of two months, and in the other in a fortnight. The influence of the medicament on the functions of digestion and nutrition is very strongly manifested. In seven-eighths of the patients to whom it was administered, there occurred within the lapse of from a week to fifty days, a restoration of the appetite, a cessation of the nausea previously produced by food, of the secretion of foul mucus about the mouth, &c. The weight at the epigastrium, the febrile access during digestion, and the marasmus gradually disappeared; the visage lost its pale, clayey aspect, and the muscles their feebleness and flaccidity." Many other interesting details on the subject are given in the "Gazette Medicale" of Dec. 24th ult., to which we refer our readers. Of the twenty-seven cases above cited, seven terminated in death before the proto-iodide had had time to exert

much of its influence; but in all the rest considerable advantage is reported to have been derived from the remedy, and one patient was discharged without a remaining symptom of disease. M. Boissiére concludes that the proto-iodide of iron acts in the cure of phthisis at once as a tonic, an astringent, and a resolutive agent. As a tonic it restores the healthy performance of the functions of digestion, assimilation, and hæmatosis; its astringent effect is displayed in causing a cessation of expectoration and night sweats; and its resolutive power in promoting absorption of the tubercular matter deposited in the lungs. It is probable, however, that its effects on the lungs, stomach, skin, &c., are but secondary, and that its primary action is exerted on the mesenteric glands, which are so constantly diseased in phthisis, iodine and its compounds having a peculiar elective action upon glandular structures. If this view be correct, other preparations containing iodine, besides the proto-iodide of iron, will be found to have a salutary influence over phthisis, and it is likely that in the course of future researches after a specific for this insidious disease, the utility of all these as remedies against it may become established.

Lancet, July 8. 1843, *p.* 517.

20.—GALLIC ACID, AS A REMEDY IN CASES OF HÆMORRHAGE.

By Robert Stevenson, M.D., Ed.

[Dr. Stevenson publishes several cases to show the value of this remedy in uterine hæmorrhage and hæmaturia. In the first case that of Jane Johnson, aged 32, the menstrual secretion had been checked, and continued very irregular for some time, generally appearing profusely when it did come on. At last it became so profuse as completely to exhaust the patient, and Dr. Stevenson was called in. "The patient was lying on her back in a very exhausted condition, with pale anxious countenance, eyes sunk, pupils dilated, pulse quick, feeble, and intermittent. The blood she had lost was at least a pound." The blood continued to flow more or less during the next day, greatly exhausting the patient, when a glass of port wine was given every four hours, and eight grains of gallic acid, with a little cinnamon, every third hour. Next day the patient was better, having only parted with three ounces of blood during the last sixteen hours. She had then taken seven powders, and continued them regularly for another day, when the hæmorrhage had entirely ceased, and the patient rapidly recovered.

The second case was one of *hæmaturia* in a boy fourteen years of age, who had been passing blood with his urine for several months, supposed to have commenced from a blow which he

received on the lower abdomen from one of his schoolfellows. After ineffectual attempts to arrest the discharge of blood, three grains of gallic acid, with four grains of aromatic powder, were given every three hours for four days, when the discharge subsided and did not return. Dr. Stevenson relates two other cases in which the same kind of treatment was successfully resorted to.]

Ed. Med. and Surg. Jour. July, 1843, *p.* 103, 110.

[It is probable that the efficacy of the following preparation of rhatany may be owing to the same principle.]

New Astringent Preparation. By digesting rhatany in sulphuric ether a brown extract is obtainable, perfectly soluble in distilled water, and when placed on the tongue giving a sensation of great astringency, followed by heat and dryness. This extract, invented by a M. Tissier, of Lyons, has been employed with success in that city in passive hæmorrhages, particularly those consequent on non-contraction of the uterus, as after prolonged labours and miscarriages. It has also been used with advantage for leucorrhœa, blennorrhœa, gleet, &c. The dose in which it has hitherto been employed is a tablespoonful of a mixture composed of from five to ten grains of the extract in six ounces of some appropriate vehicle; in leucorrhœa, topical injections are recommended of from two to five grains of extract in a pint of barley-water. The presence of this preparation in the stomach gives rise, generally, to a sensation of heat in the epigastrium, though this rarely proceeds so far as to become painful; great thirst, and a pulse often as full as in gastritis, also prevail. These symptoms are, however, transient, and readily quelled by lemonade or other mild drinks. Should the injection irritate the urethra too greatly, it is only necessary to suspend its use for a short time.

Lancet, July 8, 1843, *p.* 513.

Gallic Acid in Menorrhagia. In a paper read before the Medico Chirurgical Society of Edinburgh, Professor Simpson stated that for the last year he had employed gallic acid in some cases of menorrhagia, with the most successful results. Like all the other remedies directed against that disease, it had also occasionally failed in his hands. Some of the cases which had completely yielded under its use were of an old standing, and aggravated description. He gave it during the intervals, as well as during the discharge, in doses of from ten to twenty grains per day made into pills. It had this advantage over most other anti-hemorrhagic medicines, that it had no constipating effect upon the bowels. He was first induced to use it from finding a case of very obstinate menorrhagia got well under the use of Ruspini's styptic, after many other remedies had utterly failed, and from it being alleged that gallic acid was the active ingredient in that styptic. He suggested whether the anti-hemorrhagic properties of some of our common astringent drugs may not depend upon the gallic

acid as much or more than upon the tannin which they contain, or upon the tannin becoming changed into gallic acid within the body.

London and Edin Monthly Journal of Med. Science, July 1843, *p.* 661.

[An interesting article on tannin as a means of arresting uterine hæmorrhage will be found in Retrospect, vol. 7, art. 94. When the administration of this medicine by the mouth is impracticable or very objectionable, it may be used as an injection into the bowel. M. Duman, in a violent case of flooding, infused four scruples of tannin for ten minutes in a pint of boiling water; and when cool enough this was injected slowly into the bowels. It was attended with success.]

21.—A FEW CLINICAL REMARKS ON CASES AT ST. GEORGE'S HOSPITAL.

By Dr. Seymour.

Pain in the Head.—An old woman in one of our wards up stairs upon admission complained of very severe pain in her head. She had a very hard pulse, but as her age must be about sixty-five, I suppose that the peculiar pulse depends upon a certain amount of hardening in the artery itself, and therefore could not be reduced by bleeding, even if carried to an amount more than sufficient to reduce inflammatory hardness of the pulse in a younger person. You must never bleed an old person merely because the pulse is hard and full. It is this very state of the cerebral arteries, hardened by ossification, or softened by ætheromatous deposits in their coats, which causes them to give way, and apoplexy and subsequent palsy to ensue. But this peculiar state of the arteries may produce all the effects of apoplexy, hemiplegia, and paraplegia, without there being evident a rupture of any vessel. This may occur by transudation through the porous structure of the arterial coats, or by serous effusion. If this latter should press downward, from the region of the cerebral hemispheres into the theca vertebralis, paraplegia would result; but this serous effusion may not proceed beyond the region of the cerebrum, and you will then have what is termed "serous apoplexy." You may diagnosticate this form of apoplexy when a person has several "fits," as they are termed—fits, over and over again—as often recovering from them. But the same state of artery may be present without producing such severe symptoms as these, and there may be severe continual and violent pains in the head, such as this patient is troubled with. You will find, by referring to my case-book, that I have treated this patient by moderate bleedings. You will hear in the lectures on the practice of physic delivered in this place that bleeding, and sometimes excessive bleeding, is very valuable in many affections of the head; but that doctrine, how-

ever sound in many cases, would be very prejudicial if followed out to the full extent in such cases as the present. Remember, therefore, that bleeding in a moderate degree prevents effusion, but that when extreme it has a decided tendency to promote it.

You are aware that during the progress of life, from maturity to old age, certain alterations of structure occur in the arterial trunks, which may extend to the capillary terminations, and produce that softening of the brain which is so often found in old people, and which may be considered as the cause of the idiotcy, paralysis agitans, loss of memory, and other symptoms which so frequently show themselves towards the close of life. This peculiar softening of the cerebral structure is quite different from that which produces and attends upon inflammation of the brain.

Another case is that of Bennett, who, upon admission, stated that he had suddenly become quite deaf, and ever since had had pain in the head. The pulse was quiet, and the symptoms threw but little light upon the cases. Leeches and blisters were applied, but without relief. Quinine and a generous diet were then prescribed, and under these the patient perfectly recovered, being the very opposite means to those ordinarily prescribed, leading you to reflect that every case should be studied singly, with reference to its own peculiar symptoms, as well as with reference to cases of a similar type and character. In this case tonics and a full diet gave that relief which blood-letting and purgation would afford in cases of an opposite kind. Probably, instead of there being too much blood in this case, there was really not enough, and where the quantity of blood in the system is much diminished, whether from hæmorrhage or diarrhœa, this sort of pain in the head may be produced. In such cases the patient will complain (as this patient did) that the pain is extraordinarily severe, with various noises and flashes of light before the eyes. All these symptoms serve to diagnosticate the case, as well as to distinguish it from those cases (as the one to which I just now drew your attention) where there was an alteration in the structure of the contents of the cranium.

Hemiplegia.—A patient named Marshall, recently come from India, suffering greatly from distress and want, is therefore in a state of great debility, and has I hear many symptoms of tubercular phthisis, The hemiplegic symptoms came on about a week since, and may have been caused by a slow and almost imperceptible extravasation into the right corpus striatum. There has not been, so far as I can learn, any positive fit, but if she do not previously sink under the pulmonary mischief with which she is threatened, a further effusion may occur. She had leeches applied to the right temple, and the bowels were kept freely open, under which treatment she has slightly rallied, and is able to move the leg slightly. In these cases the legs recover their power of motion before the arms.

Paraplegia.—This may be partial or entire, and sensation and motion may be separately lost. In Woolley and Cuff this peculiar form of palsy exists. In general, in these cases, the severe pain of the head is referred to the base of the brain, but Woolley refers all the pain to his forehead, and he is able (which does not always happen) to retain his urine and fæces. He has only lost motion. Sensation remains normal, which would lead me to conclude that the spinal marrow was diseased. Patients very often recover from attacks of paraplegia, and therefore this state of the spinal marrow, of course, does not exist in every case. Dr. Baillie has suggested that such cases may be the result of fluid effused within the cavity of the theca vertebralis, which may gravitate to the lower portion of the spinal column, and cause pressure. Cuff's affection occurred about seven or eight months since, and was ushered in by epistaxis, but it is more than probable that there was some headache or pain before that time. He was bled very largely before he came into the hospital, and, as I have just told you, this large bleeding may lead to effusion. He also states that he sees double, and, as a general rule, in all cases of head affection, where the patient sees double, or only half of an object at a time, it is to be considered as a very bad symptom, and death may be expected from effusion into the substance of the brain, sooner or later. You may meet with many cases in which this abnormal state of the vision is temporary, and only indicative of some functional derangement, but where cerebral mischief impends, it is always a suspicious symptom and should be closely watched. As I have treated both these cases nearly in a similar manner, I shall condense what I have to say on the subject. Woolley was cupped at the back of the neck, and blisters were afterwards applied, the blistered surface being dressed with the strong mercurial ointment. This is a very painful but a very effectual way of employing counter-irritation. He was young, and I therefore ordered him to be slightly bled, in order to obviate the chance of inflammatory action supervening. I did not have Cuff bled, as he had lost so much blood before he came. With reference to Woolley's case, I may also state another reason why I do not consider it to arise from organic disease within the spinal sheath, namely, that in most cases which really do arise from this latter cause there is generally at one time or other, some palsy of the intercostal muscles, or the diaphragm. Now, there have been no such symptoms in this case. I put Woolley on thirty minims of tincture of cantharides, at first twice, daily, but for the last three days he has taken this dose three times a-day. This has been followed by a very perceptible increase in the quantity of urine. I could mention to you many cases in my practice in which I have cured this affection in a most wonderful and extraordinary manner by this medicine. But its good effect is only produced when a copious diuresis succeeds to its exhibition. With so many examples of the beneficial effects of this remedy given in this

manner I am sometimes almost inclined to consider that palsy depends upon effusion. You may, perhaps, be astonished that the cantharides in these cases does not produce violent strangury; however, I have never known this accident to occur. Should such a case as this happen to you in practice, be careful that your patient has not a stricture, or other affection of the urethra, for then you must not give this medicine, or if you have given it, and you find afterwards that the patient has stricture, suspend its exhibition for a few days. It must not be administered to women, from its peculiar effect upon the uterine system, and its appendages. But if you have given it, and, in spite of your efforts to prevent it, strangury does arise, what should you do? In some books on this subject camphor is recommended in such cases; but camphor is very slow in its operation. I do not, therefore, recommend it, but I do advise you to give from twenty to thirty drops of tincture of opium, in a starch injection, and then this unpleasant strangury will almost immediately disappear.

Lancet, May 20, 1843, *p.* 253.

22—TREATMENT OF CHOREA.

By Dr. Todd, F.R.S., Physician to King's College Hospital.

The treatment of chorea which is now most generally and successfully adopted, has not been based upon any theory of the disease, but is founded upon the lessons of experience; and, indeed, the success of that treatment may be adduced as an argument in favour of the constitutional nature of the disease. The object of it is to improve and give tone to the constitution by promoting a healthy and vigorous nutrition, without any interference, mechanical or otherwise, with the ostensible phenomena of the disease. In truth, the movements of chorea are not to be restrained. If you attempt to hold down a limb affected with these involuntary jerking movements, they become tenfold more violent, and there is danger of converting a partial into a general chorea. When we tried to restrain the girl Sleet, who was suffering from general chorea, she became excited to a most fearful extent, and it was evident that a perseverance in the attempt would have been productive of mischief. You must, therefore, avoid everything like restraint, provide against the possibility of your patient being injured in the violence of the movements, but give him as free a space to move in as you can.

In the treatment of the ordinary and more chronic form of chorea the following points demand your attention:—You should first provide as good air for your patient as you can. The removal of the children of the poor from the dark rooms which they inhabit into the light atmosphere of a well-ventilated hospital is generally an important step in the cure.

The next point to be attended to is cleanliness, with friction of the skin. The means employed for these purposes must assist materially the functions of the skin, and promote both cutaneous secretion and cutaneous respiration. To secure good clothing, and to keep the surface warm, are also important objects to be gained if children are to be restored to a healthy state of nutrition; and lastly, you must give your patient a wholesome and nutritious diet, with a proper allowance of animal food, and porter or wine in moderate quantities when there is much debility or when the movements are constant and exhausting. These means will be often successful even if employed alone, and they must be continued after the movements have ceased, in order to guard as much as possible against relapse.

The use of purgatives should be had recourse to very early, and with a twofold object, first, to carry off any noxious secretions that may have been formed in the intestinal canal, and to assist in improving the character of the secretions; and, secondly, with a view to the dislodgement of intestinal worms, which may exist in the bowels, and may keep up a continued irritation. In some cases purgatives have been the only medicines employed, and they have been successful, either by removing some source of irritation, or by improving the general health. The medicines of this class which I generally employ are calomel and jalap in combination, or castor-oil and turpentine; and when there is good reason to suspect the presence of worms, I continue the use of them, but especially of turpentine, for some time. You must take care not to purge too actively, for the effect of such practice would be to weaken your patient, and by the irritation of the bowels to prolong the convulsive action. You may leave off the purgatives, or have recourse to them only occasionally, when you find the secretions of the bowels assume a healthy appearance, and when you feel satisfied that no worms infest the intestinal canal.

You must now call in the aid of tonic remedies, and you cannot do so at a better time than when the secretions have been improved by the use of purgatives, and the pores of the skin opened by ablution and friction. The best tonic we can have recourse to is the tepid or cold shower-bath, especially the latter. The tonic influence of cold is of great power in this disease, as it is in all instances of enfeebled states of the nervous system. In employing this remedy, however, you must take care not to alarm your patient; I have known chorea to be brought on by the sudden shock of the shower-bath. To avoid the shock it may be advisable to begin by using the hand shower-bath, which we found decidedly useful in both Lowe's and Sleet's cases; or you should, at first, employ but a small quantity of water, which can be afterwards gradually increased.

Of medicinal tonics the best are the preparations of the metals and sulphate of quinine, which latter may be advantageously combined with some one of the metallic salts. The preparations of

iron are the most generally applicable to this disease. You may give the sulphate of iron, or the muriated tincture, or the mistura ferri, or the carbonate of iron, or the saccharated carbonate of the Edinburgh Pharmacopœia. The sulphate is that which I have most frequently employed, and you know that I do not hesitate to use it in very large doses after I have satisfied myself that the patient will bear it.

The sulphate of zinc is also a very valuable tonic, often very serviceable in this complaint. You begin it in the quantity of a grain three times a day, and you may gradually increase it to several grains for each dose.

I have not used either lead, copper, or mercury, in this disease, nor is there anything in their medicinal properties which would suggest the propriety of having recourse to them. Mercury may be used as an alterative, or to act on the secretions of the liver, but it cannot be useful for any other purpose; and, moreover, it is liable to this objection, that if salivation should come on in an enfeebled state of constitution, the consequences may be very serious.

Arsenic has been a good deal used in this disease, and with unquestionable benefit. But if I can cure my patients with iron or zinc, I would rather not employ arsenic. This metal, like mercury, is capable, after a longer or shorter time, of producing a cachectic state peculiar to itself, against which you have no means of providing. I therefore advise you to reserve the use of arsenic to the last, in your list of expedients for the cure of chorea. There is no doubt that a very large proportion of the cases are curable without the necessity of having recourse to this poison.

It seems almost superfluous, after what has been said, to warn you against the employment of antiphlogistic measures in this disease. Bleeding, whether general or local, can do no good, and if the movements have ceased under the use of it, it must have been in consequence of great exhaustion and debility induced by it. Dr. Willan very justly condemns the ancient practice of bleeding in this disease, and he makes the following remark, which deserves to be quoted as a caution to those who are apt to draw hasty conclusions from solitary or few cases. He says, "A case, inserted by myself in the 'London Med. Journ.,' vol. vii., may seem to contradict the above assertion (against bleeding); but it is just and proper now to say that I met with the fate of other hasty case-writers. Before the volume recording it was circulated, my patient had a severe relapse, and was at length cured by a very different plan." (Reports on the Diseases of London.)

Opiates, and the whole class of sedatives, appear to me to possess no value in the treatment of chorea. You saw of how little avail even pretty large doses of morphia were in the case of Sleet, when a little sleep would have been of decided service. I have a theoretical objection to the use of opiates in this disease. They affect the brain, and even when they produce sleep, they are apt to leave

after them a disturbed state of that organ. Now I should fear that the administration of opium in chorea would add fuel to the fire which already exists in at least a portion of the encephalon; and certainly I have never seen real good result from its use.

Lancet, July 1, 1843, *p.* 464.

23.—*Chronic Hydrocephalus treated with Ipecacuanha, in form of liniment.* [In Dr. Hannay's Dispensary cases is the following one of chronic hydrocephalus, which was said to be congenital:]

The infant was in its eighth month, and the head had acquired a size much beyond natural. It presented an unnatural expression, looked languid and inactive; squinting, vomiting, and costive bowels. It had been several times attacked with convulsions, after which it lay comatose for several hours. The fontanels were large and full. I directed diuretics (nit. pot. and pulv. ipecac.) as I have a notion that to increase the urinary discharge is on many accounts very advantageous in this disease. But it is to the effect of a liniment composed of powdered ipecacuanha root, from which decided benefit was derived in this case, that I request space for a short memoir of my trials of this remedy, first suggested to me by my accomplished colleague, Dr. Easton, Professor of Materia Medica in Anderson's University. To that gentleman I sent the following results of my experience of this new counter-irritant, and beg to offer it as the therapeutic parts of my gleanings. The formula I adopt is as follows:—

℞ Ipecac. Pulv.; Olei Oleæ Europ. aa. ʒij.; Adipis Suill. ℥ss.; M. opt. fiat linimentum fricando admovendum.

The part we wish to irritate is to be rubbed freely with this liniment for fifteen or twenty minutes three or four times daily, and enveloped in flannels. This produces, in about thirty-six hours, or sometimes sooner, very numerous small papulæ and vesicles, seated on a deep-red base of irregular extent. They become flattened in a short period, and assume the pustular character. Many of them run together; are confluent. The part feels hot to the hand of another, and a tingling sensation, never amounting to pain, is experienced by the patient. The eruption endures pretty vividly for a few (three) days, during which the pustules become covered with a scab-like scale, and fall off, leaving no mark. They never ulcerate, as do the pustules from the tartrate of antimony. I regard the ipecacuanha as a very valuable addition to our counter-irritants. It is not over severe, as the tartrate is occasionally found to prove. Yet with all its moderation, it is very efficient, and extremely manageable. In feeble, young, and very irritable persons it will, I feel assured, prove a very suitable counter-irritant. I specially beg attention to the use of it in the

head diseases of a chronic kind in infants and young children. Many of these cases follow the suppression of eruptions and scabbed diseases of the scalp. Now, the ipecacuanha liniment produces a scabbed state of the scalp, as nearly resembling the affections in question as can be imagined, and maintaining a counter-irritation on the surface which I have proved, I think, to be a very valuable agent of this nature.

Ed. Med. and Surg. J., Oct. 1843, *p.* 321.

24.—*Remarks on Indian Hemp.* [As the use of this medicine is becoming more common, we would refer the practitioner to some cautionary remarks of Dr. Farre, which are as the following:—]

The *apocynum cannabinum* is sold in London under the name of "Indian hemp." It is a native of Canada and Virginia, and has no resemblance to the true hemp, except in possessing a tough fibrous bark, which is applicable to the same purposes in the arts. In the U. S. Pharmacopœia it is termed "Indian hemp." The officinal part is the root, which is powerfully emetic and cathartic. But the part which I have seen supplied as Indian hemp consists of the leaves and the follicles filled with numerous silky seeds. As the follicles are two to three inches long, and the silky seeds are abundant, they can hardly have escaped the notice of those who may have inadvertently used this article under the idea that it was the hemp from India. The true Indian hemp, or "gunjat," is our common hemp; and consists of the flowering branches, two or three feet long, nearly destitute of leaves, and having the flowers and fruit (hemp-seed) agglutinated together by the resinous secretion. As the most powerful antispasmodic properties have been attributed to this plant, it is important that no false conclusions should be drawn in consequence of the employment of a wrong article. I am not aware that any real Indian hemp is at present in this country except the supply recently brought by Dr. O'Shaughnessy, and left with Mr. Squire, of Oxford-street. We have at present little experience of the medicinal properties of English hemp. A hotter climate, a more intense light, and a different soil, may give to it properties which are scarcely developed in this country, but as the resinous secretion is not wanting here, it appears deserving of a careful trial.

Med. Gazette, May 5, 1843, *p.* 209.

25.—*On Inspissated Bile.* [We have several times alluded to the exhibition of inspissated ox-gall as a remedy for constipation, &c. We find that the inspissated bile of the swine has been used in America since 1828, for this and other purposes. In a communication on fever by Dr. Mettauer, we have the following:—] Another modification of the ipecacuanha pill employed by us, was

the combination of two or three grains of the inspissated bile* of the swine, with one grain of ipecac. and two of the carbonate of potass; this compound was most valuable in this stage; and it seemed to act with decided effect, as a supporting and secerning remedy, upon the mucous membrane of the stomach and intestines, and as a diaphoretic at the same time. It was especially valuable in those cases attended with a denuded and raw tongue; this organ always becoming more healthy after its administration.

American Journal of Medical Science, July 1843, *p* 52.

26.—*Cream of Taraxacum.* [We quite agree with Dr. Collier when he says that "remedies are enhanced in value when they are found to combine simplicity with efficacy; and hundreds of pounds are paid for ext. taraxaci in public and private practice, and nine-tenths of it are all but inert, sweet, and decomposed in the process of preparation." He gives his own method of using dandelion for the cure of hepatic and dropsical disease which we are disposed to think very favourably of.]

Cut the fresh roots of dandelion, freed from any adherent earthy matter (previously washed and slightly scraped) into transverse slices. Sprinkle any quantity of these, while moist, slightly with spirit of juniper, and express them in a tincture-press. The cream thus expressed will keep any reasonable time for the purposes of the practitioner in the hottest weather. The dose, a tablespoonful, or more, twice or thrice a-day, will probably produce two or more diurnal biliary evacuations.

It may be diluted, and put up in the form of draughts, with any of the diuretic waters or infusions, or with a solution of cream of tartar. The great objection to its use will be that it costs nothing, and may be made by every one, without pharmaceutical mystery or expense.

Lancet, Sept. 16, 1843, *p.* 876.

27.—*Liquor Taraxaci.* Earland recommends the following formula for this preparation, taken from the Annals of Chemistry: "Dandelion roots, perfectly clean, dried and sliced, ℥xij. Infuse for twenty-four hours in a sufficient quantity of distilled water to cover them. Press and set aside that the fecula may subside;

* This article we have used since 1828, and we think its employment as therapeutic agent is original with us. We were induced to resort to it first in the low depressing states of continued fever, with the design of acting especially on the gastro-intestinal mucous membrane, which we believed became disorganised in such cases in a great measure from the want of the biliary influences; and in these cases it always acted with decided benefit. It served to substitute the action of the bile. Simply heating the bile over a sand-bath until it becomes dry and pulverizable was our mode of preparing it. It is a valuable agent in dyspepsia, and in many chronic affections attended with defective biliary secretion. In chlorosis, amenorrhœa, some forms of dysmenorrhœa, and constipation, we have also employed it with decided advantage.

decant and heat the clear liquor to 180 Fahr., filter the liquid whilst hot, and evaporate spontaneously until the product weighs 14 ounces. To this add 4 ounces of rectified spirit. If properly prepared, it resembles in colour pale sherry.

Pharm. Journal, June 1, 1843, *p.* 778.

28.—*Treatment of Croup with Sulphate of Copper.* By Dr. Schwabe. This invaluable medicine in croup, first recommended by Serlo, has been used in more than fifty cases by the writer. He generally begins the treatment by applying from four to twelve leeches to the larynx, and then orders 1½, 2, 3, and occasionally even 4 grains of sulphate of copper, mixed with a few grains of sugar, to be taken every half hour or every hour according to the urgency of the symptoms. Each dose is followed by vomiting, which, scanty after the first dose, is always copious after the second, and is continued so long as thick mucous or membranous concretions are apparent in the matters ejected. The patient then takes half a grain of the sulphate every hour, until several dark green motions have been discharged, to effect which from eight to twelve doses suffice.—*Casper's Wochenschrift, No.* 9, 1843.

London and Edin. Monthly Jour. of Med. Science, Sept. 1843, *p.* 834.

29.—*New Preparation of Quinine.* Dr. Kingdon, of Exeter, having felt the utility in practice of quinine as a tonic, in cases in which a stimulus to the absorbents also was indicated, has recently succeeded in combining the qualities of these two classes of medicines in an iodide and biniodide of quinia. His iodide of quinine is formed by dissolving equal weights of the disulphate of quinine and iodide of potassium in boiling distilled water, and allowing the mixture to cool, when beautiful fasciculi of needle-shaped crystals are deposited, insoluble in cold water, but soluble in alcohol. The biniodide of quinine is prepared by mixing twice the weight of iodide of potassium with the disulphate of quinine in boiling distilled water, evaporating to one-third in a sand-bath, and allowing the residue to cool, when a resinous substance is deposited of a light straw colour, which, by exposure to the air, becomes darker and of a greenish hue, not crystallisable, sparingly soluble in cold water, soluble in boiling water, readily soluble in alcohol, and then not precipitated when mixed with water. This preparation he has given in several cases of scrofulous enlargement of the glands with very great benefit. In the case of a child, between three and four years of age, when the glands of the neck were in a state of suppuration, half a grain twice a-day was given, and at the end of six weeks the swellings were entirely removed, and the general health much improved.

Med. Times, July 29, 1843, *p.* 288.

30.—*State of the Iris in Cerebral Lesion.* In the examination of cases of injury to the brain it is extremely important for you to enter minutely into all those signs which indicate any injury to the brain. First, the mental condition; next, the state of the pupils—the iris is placed before that expanded surface of the optic nerve, the retina, as an intelligent curtain to guard it from injury. The vital contrivances by which it acts, and by which its action is directed, are so beautifully perfect that the extent of the opening of the curtain is indicative of the state of the nervous apparatus it is destined to protect, by preventing such an amount of light impinging upon it as would be liable to injure it. In disease of the globe of the eye the dilated pupil indicates more or less pressure on the retina by some cause in the globe itself, such as a permanently turgid choroid, &c. But if with a healthy eye, but in connection with a blow on the head, we find a dilated pupil, then we have the sign of some pressure or injury to the nerve in its course within the skull, or the ganglia in which it terminates.

The dilated pupil, then, indicates very serious injury to the optic nerve, or the nervous centres with which it is connected, though it may happen, as in the case of very severe concussion, the injury is remediable. The contracted pupil, on the contrary, indicates an irritability of the nervous instruments, an undue excitement of their natural function—not an obliteration of it. You will sometimes see, in the case of injury of the brain, dilatation of one pupil and contraction of the other; where this is the case you will find the most severe injury of the brain on the side opposite the dilated pupil. I have several facts to prove this assertion, which I shall relate on a future occasion.—*Med. Gaz., Mr. Solly's Clin. Lec.*

Prov. Med. J., May 27, 1843, *p.* 180.

31.—*Ferruginous food.* Under this name, M. Colmel, a Parisian pharmaceutist, has introduced a new mode of administering iron. His method consists in adding to the iron the usual ingredients for forming chocolate paste, and thus produces a ferruginous compound, by which the taste of the metal is concealed.—*Gazette des Hopitaux.*

Prov. Med. Journal, Aug. 12, 1843, *p.* 405.

32.—*Treatment of Volvulus.* Mr. Pilcher has recorded a case of volvulus occurring in a child, in which all the remedies commonly employed for the removal of the disease had been unavailingly employed, when he was induced by the recollection of a former case to order thin gruel to be injected by the rectum until the lower intestines had become completely distended, regurgitation being prevented by pressure around the anus. The effect was almost immediate, the obstruction giving way and the patient completely recovering.

Prov. Med. Jour. May 6, 1843, *p.* 122.

33.—*Value of Antimony in Mania.* Dr. Sutherland states that the employment of antimony in the treatment of mania is of the highest value. A fourth of a grain of the potassio-tartrate may be given every fourth hour, or at the commencement of the paroxysms of furor. It is powerful as a means of controlling the action of the heart and arteries. In many cases in which it has been given, it has acted like a charm in instantly subduing the excitement and violence of the patient; and in some cases an alteration in the symptoms for the better has been traced from the commencement of its administration.

Prov. Med. Jour. July 22, 1843, *p.* 342.

34.—*Dartres of the Perineum.* Dr. Barosch, of Lemberg, was consulted by a young man, about twenty-eight years of age, for a dartrous eruption affecting the perineum and scrotum, with which he had been afflicted from his sixteenth year, and the irritation from which was such as to cause him to be continually applying his hands there, so that he was obliged to avoid society. He had consulted the most famous physicians in Hungary, but the only thing that seemed at all to relieve him was the cold water hip-bath. When he consulted Dr. Barosch, he was exhausted by suffering, insomnia, loss of appetite and despair; the skin was dry; the entire perineum, scrotum, and internal surface of the thigh were covered with deep brown, hard crusts, surrounded by bleeding fissures caused by the nails of the patient. Below these crusts the skin was hard and thickened. The fall of the crusts alternated with an acrid discharge. Kœchlin's liquor having failed, Dr. Barosch pescribed the external application of iodine as follows:—Fifteen grains of iodine and two scruples of hydriodate of potass dissolved in five ounces of distilled water and one ounce of spirits of wine; make a lotion. The topical application of this solution continued for several hours, caused at first a burning sensation, which was, however, very tolerable, and was soon followed by a relief such as the patient had not experienced for two years. The use of this lotion was continued for three weeks, the patient taking baths frequently during that period, at the end of which time the cure was complete.—*Oesterr. Medicin. Wochen.*

Provincial Medical Journal, April 29, 1843, *p.* 99.

35.—*Compression in Chronic Hydrocephalus.* M. Hirsch has published another example of the efficacy of compression in cases of chronic hydrocephalus.

A child, eleven months old, laboured under this affection; the head was large, fontanelles open, and all the sutures widely separated. The lower extremities were paralysed. On the 11th May a mixture, containing infusion of bark, digitalis, and sweet spirits of nitre, was administered, and mercurial frictions were

made on the head. The paralysis gradually disappeared under the influence of this treatment. On the 28th the head was enveloped with strips of sticking plaster, which compressed it on all sides; the plaster was renewed on the 28th of June and the 4th of September, and in February it was found that the fontanelles and sutures were completely ossified. The child had begun to walk and speak.—*Casper's Wochen.*

Provincial Medical Journal, April 29, 1843, *p.* 101.

36.—*Pilula Ferri Comp.* [Several methods of preparing this pill have been recommended to preserve the carbonate of iron undecomposed, and to insure the uniform consistence of the mass. This can be made according to the directions of the Pharmacopœia by an attention to the following particulars:—]

Dissolve the sulphate of iron, finely powdered, in treacle, with a moderate heat, and add the carbonate of soda, stirring constantly until the effervescence has entirely ceased and the mixture has become cool; then add the myrrh gradually and incorporate the mass. As a little evaporation takes place at the commencement of the process, a small excess of treacle is requisite to supply the deficiency. This mass retains its colour and consistence remarkably well.

Pharm. Journ., July 1, 1843, *p.* 36.

37.—*Mistura Ferri Comp.* Mr. Strutton, in the "Chemical Gazette," gives the following formula for the mistura ferri composita, by which its decomposition may be prevented:—

Myrrh, two drachms; carbonate of potash, one drachm; rose water, fifteen and a half ounces; spirits of nutmeg, an ounce; sugar, two ounces. Mix according to the Pharmacopœia and dissolve.

Sulphate of iron, two and a half scruples, dissolved in two and a half ounces of rose water.

When required, add to seven drachms of the first mixture, one drachm of the latter, which saves the trouble of preparing it for every prescription, and is equal to the mixture being fresh made every time it is wanted.

Prov. Med. Journal, June 10, 1843, *p.* 221.

38.—*Treatment of Diabetes.* [An interesting case of this affection is published by Mr. Hodges, of Downpatrick, in which the nitrogenizing plan of treatment so ably recommended by Dr. Barlow, of Guy's Hospital, was attended with excellent results. The treatment was commenced by giving 5 grains of the sesquicarbonate of ammonia every three hours, with coffee and

bacon to breakfast, animal food and cruciferous vegetables for dinner. The skin was stimulated by friction, and the patient well clothed with warm flannel. In four days the urine was diminished in quantity from 24 to 14 pints daily. The ammonia was then increased to 5 grains every two hours, and very soon the quantity of urine voided was only 8 pints daily ; in thirteen days more only 5 pints, and in twenty-one days the drink taken in the twenty-four hours was 2 pints, and the urine 4 pints.]

Medical Gazette, July 7, 1843, *p.* 525.

39.—*Anodyne power of the Cynara, or Artichoke.* By Dr. BADELEY, Chelmsford. [This gentleman has frequently prescribed this medicine with decided benefit in rheumatic and neuralgic affections, and even in some obstinate cases of sciatica which had resisted the more ordinary remedies. He says :—]

I generally prescribe a combination of a drachm of its tincture with five grains of the extract, in a draught, three times a-day, varying the vehicle, and adding other remedies, according to the circumstances of the case; sometimes in mist. guaiaci, one ounce and a half, or mist. camphoræ ; sometimes in combination with colchicum, and with or without a few drops of Battley's liquor opii sedativus, or a solution of morphia. It possesses the advantage of having no deleterious or prejudicial effects on the system, and may be increased in its proportions, or duration, if the case require it. Several cases of gout have yielded so rapidly to its exhibition as to induce a belief in its specific power in the minds of those who have suffered from that complaint. It is not a new medicine ; it is mentioned in Lewis's "Materia Medica," in Parr's, and in Hooper's "Medical Dictionary," and in other works, but is merely lauded there for its diuretic property, and said to derive its name "cinara," from κινέω (moveo), "quia movet urinam," an etymology as vague as it is unsatisfactory ; others spell it "cynara," and derive it from κύων (canis), from the dog-toothed shape of its leaf. But this is of minor importance. Suffice it to say that it is universally known under the title of "artichoke." It is necessary that it be prepared quite fresh from the leaves, its efficacy apparently depending mainly on its freshness.

Lancet, July 15, 1843, *p.* 556

40.—*Incontinence of Urine successfully treated by Nitrate of Potash.* [Dr. Young, of Chester, Delaware county, has found that this medicine given in 10-grain doses every three hours has had a very excellent effect in checking this troublesome affection. In several cases where tinct. lyttæ and other means had failed this medicine was given with complete success. He supposes that its

good results may be owing to its increasing the irritating properties of the urine, thus making it more stimulating to the bladder or its sphincter. If so, he also thinks that other preparations of potash, soda, &c., may be used when the nitrate fails.]

Am. Jour. of Med. Science, April, 1843, *p.* 371.

41.—*Paralysis of the Bladder cured by Cantharides.* A patient was lately admitted into the Hôpital de la Pitie with paralysis of the bladder, for the relief of which all ordinary methods of treatment had failed. M. Lisfranc ordered the direct application of tincture of cantharides to the bladder by the following mode:—One drop of the tincture was let into the organ through a catheter, and followed by an injection of simple lukewarm water. Next day two drops were similarly instilled, and the like operation was repeated night and morning for several succeeding days, an additional drop of the tincture being added on each successive occasion. By this method of treatment a cure was soon effected. M. Lisfranc found no perceptible local irritation to result from the use of the tincture in an undiluted form, while the direct application of the remedy to the organ affected was clearly preferable, in every respect, to its internal administration.

Lancet, June 3, 1843, *p.* 348.

42.—*New Classification of Medicines.* M. Mialhe, in the "Bulletin de Therapeutique," states that his researches have led him to conclude that the greater number of substances introduced into the economy act chemically either mediately or immediately on the serum of the blood, some *coagulating* and others *fluidifying* its albumen. In the class of coagulants are ranged all tonic, astringent, and styptic agents, as most of the mineral acids, a great many of the metallic salts, tannin, creasote, ergot of rye, &c. The class of fluidifiants comprises all true diuretics, with many alteratives and general excitants, including most of the vegetable acids, ammonia and its salts, the iodides, sulphurets, and alkaline chlorides, &c. But some medicines, which at first act as coagulants, afterwards become fluidifiant; this is the case with bichloride of mercury. Others, which have not any perceptible action on the albumen when first introduced into the circulation, become afterwards coagulant in a high degree. Of this class is ergot of rye. This substance, according to Mialhe, having after a time effected a thickening of the albumen, ultimately produces a firm coagulation "or rather a process of organization more than simple coagulation." By this action Mialhe explains all the known effects of the ergot; and he supposes the agaric used for stopping bleeding the champignon, &c., to exert a similar coagulant agency.

Lancet, May 27, 1843, *p.* 306.

43.—*Decoction of Oak-bark.* This preparation has of late been strongly recommended by a French practitioner as an injection into dropsical cysts, as hydrocele, &c., after their previous contents have been drawn off. It is said to exert a marked tendency in preventing a subsequent accumulation of fluid. Its active astringent quality suggested to the above practitioner that it might be serviceable in promoting the contraction of the ring after the reduction of recent inguinal hernia; and the application for some time of compresses impregnated with a strong decoction of oak-bark, kept *in situ* by a truss or bandage, has been in his practice attended with this result to the most satisfactory extent.—*Gazette Medicale.*

Lancet, June 3, 1843, *p.* 340.

44.—*Use of Elder Bark in Chronic Dropsies.* The decoction and extract of this vegetable substance are reported to be remarkably efficacious as hydragogues, producing so speedy an effect on the urinary and fæcal secretions as to make it needless to use more than two or three applications. The proportions for the decoction consist of a couple of handfuls of the bark to a quart of water: dose, a wineglassful a-day. The extract is administered in France in the form of pills, of one and a half grain each, of which from six to ten are taken in the twenty-four hours.—*Journ. de Med. et de Chir. Pratique.*

Lancet, June 3, 1843, *p.* 340.

45.—*Aphonia cured by Galvanism.* Theodore Mandurik, a Dalmatian, twenty-four years of age, of sanguine temperament and a robust constitution, and who had usually enjoyed good health, killed one of his countrymen in a quarrel, for which offence he was incarcerated in the prison at Scardona. Three days afterwards he was attacked by a violent fit of epilepsy, followed by entire loss of voice, to restore which external local and general bleedings, and antiphlogistic measures of all kinds were employed without effect.

In a few months he was removed to the central prison of Zara, where he was examined by the medical staff. The tongue was somewhat enlarged, and preternaturally reddened, though dry, and the blood-vessels around its base were much distended. The sense of taste was uninjured, but the movements of the tongue and of the larynx were performed with difficulty. Leeches were now applied to the sides of the tongue; tartarised antimony, in both large and small doses, and drastic purgatives, were employed, and a tartar-emetic plaster was placed over the larynx; but all these means failed to restore a healthy action in the parts adjacent, and Mandurik was still compelled to keep his mouth partially open to maintain respiration, a function only performed by short and

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difficult inspirations. At length, about sixteen months after the attack, the voltaic pile was thought of, and a battery of fifty pair of plates was employed. The positive pole was placed over the cervical vertebræ, and the negative upon the parts affected. On the first day two hundred shocks were given, and on the second three hundred, but no perceptible effect followed. Two days were suffered to elapse, and a battery of seventy pair of plates was then used, with which about three hundred shocks were given. The patient was found acutely sensitive to the action of electricity, and a lapse of five days was permitted to intervene before its fourth application, which consisted of four hundred shocks with the last-named battery. Whether these had been administered too precipitately, or whether his system had become more excitable by galvanism, the patient after this last application became much agitated, and subsequently fainted for a short time. Next day he suffered intense headache, his face was flushed, eyes lustrous, pulse full and strong, from which state he was relieved by copious bleeding. But he now, for the first time, gave utterance to hoarse sounds. After six more days the battery of fifty pairs was again employed, and three hundred shocks were given. The same treatment was repeated every two or three days, and then, at similar intervals, four hundred shocks were given with the seventy-pair battery. The voice, meanwhile, and the motive powers of the tongue and larynx, gradually returned to their normal condition, and after the twelfth application the patient had completely recovered. The deduction drawn by the surgeon who has reported the case is, that no nervous affection whatever should be regarded as incurable till electricity in some form has been tried and found to fail.

Lancet, May 27, 1843, *p.* 291.

46.—*Medicinal Use of Saffron.* In several cases of obstinate chlorosis that had not yielded to preparations of iron, in one case of puerperal fever in which digitalis and bleeding had failed, and in two cases of chronic artero-phlebitis, Dr. Morgante, of Verona, reports that he has employed saffron with the greatest success, commencing with doses, in the form of pills, amounting to sixteen grains in the twenty-four hours, increasing the doses until the quantity is doubled. As to the manner in which this medicine acts—it is reported to be particularly effective in cases of increased action of the capillary vessels, and analogous in its effect to the more active preparations of iron.—*Memoriale della Medicina Contemporanea.*

47.—*Facial Neuralgia.* An ointment composed of veratria, one part to eighty parts of lard, has been found very useful as an external application in cases of facial neuralgia. But the preparation is much more efficacious if made with rancid instead of fresh

lard, which is probably owing to a salification and greater solubility effected in the veratria by the agency of the free acid in the fat.—*Revue Scientifique.*

Lancet, May 27, 1843, *p.* 304.

48.—*Black Drop reduced to the Strength of Tincture of Opium.*

Take of hard opium, powdered, ℥iij; citric acid, powdered, ℥iss; boiling water, ℥xv; rectified spirit, ℥xxv. Pour the boiling water on the opium and citric acid; macerate for twenty-four hours; add the rectified spirit; again macerate for fourteen days, and strain.

Lancet, May 20, 1843, *p.* 280.

49.—*Treatment of Dropsy.* The main object in the treatment of ascites is, of course, to excite the organs, by the aid of which nature herself expels the serous secretions of the abdominal cavity; and accordingly such diuretic and drastic agents should be employed as are most likely to act at the same time on the absorbent system, the urinary organs, and the intestinal tube. In combination, also, with medicinal agents, a diet should be adopted at once solid and tonic, composed principally of broiled or roasted meats, toasted bread, &c., with small quantities of red or white wine; but on no account should the patient have recourse to toast and water, broths, gruel, or such like drinks; in fact, the principle should be to drink as little as possible, and instead of liquids to use jellies, oranges, and fruit generally, by way of demulcents. M. Delreyne, who advises the above regimen, recommends the following diuretic wine as suited to weaker subjects:—

℞ Nitrate of potash, three drachms, and juniper-berries, fifteen drachms, to be steeped for twenty-four hours in a bottle of white wine; dose, a glass daily.

This stimulant is especially useful in incipient dropsy, and cases of œdematous swelling of the extremities.—*L'Experience.*

Lancet, May 20, 1843, *p.* 253.

50.—*Agents Affecting Capillary Circulation.* M. Poiseuille has established the fact that nitrate of potass or acetate of ammonia, added to water or serum, renders it capable of flowing more rapidly through either inorganised tubes, as those of glass, or organised, as the vessels of animals, whether in a dead or living condition. Alcohol has a precisely opposite effect, it checks the fluidification of humours, and retards the flow of fluids in capillary or other tubes.—*Archives Gen. de Med.*

Lancet, May 20, 1843, *p.* 253.

51.—*German Treatment of Engorgements of the Liver and Spleen.* Dr. Schwabe, of Gross-Rudestadt, makes known to us the following recipe, which he has employed successfully against the above affections:

℞ Belladonna root, powdered, a grain and a half; muriate of quinine, four grains; powdered rhubarb, fifteen grains. Mix for ten powders; one to be taken morning, noon, and night, in any convenient vehicle.—*Casper's Wochenshcrift.*

Lancet, May 20, 1843, *p.* 253.

52.—*Treatment of Rickets.* By A. W. Close, Esq., Manchester. [This gentleman states that the softened state of the bones in this affection is owing originally to a deficiency in the supply of *the nutritive nitrogenised substances.* The affection is seldom seen during suckling, because the milk contains those elements which are exactly suited to the wants of the system. After weaning, the diet often adopted among the poor consists chiefly of potatoes, oatmeal, gruel, tea, coffee, and rice. Now *proteine* is only found in the two first in small quantities, and none in the rest. Among the middle and upper classes the diet after weaning is often sago, rice, or arrowroot, which certainly fatten the little children, but do not convey a sufficient quantity of nitrogen to the system. The diet ought to consist more of the nitrogenised substances when there is this disposition in the system, such as beef-tea, eggs, and wheat ground and made into bread without the separation of the cuticle of the grain, in which is contained the phosphate of lime, to whose absence the softened condition of the bones is usually attributed.]

Medical Times, August 19, 1843, *p.* 335.

53.—When strabismus, in hydrocephalus of adult life, exists only to a slight degree, it is, I think, noticed better at a distance from, than close to, the patient.—*Dr. H. Kennedy.*

Lancet, July 29, 1843, *p.* 618.

54.—*Case of Transfusion of Blood.* [A very interesting case of this description is published by Dr. Prichard, of Bristol. It was that of a gentleman who had been reduced to an exhausted and exsanguineous state by a long continued draining of the system through the kidneys.]

His early complaints had been of dyspeptic symptoms. These were followed by emaciation and loss of strength. His actual state was that of extreme inanition; his pulse was feeble, jerking, very compressible, the calibre of the artery apparently not filled; he had palpitation of the heart, increased by the slightest exertion,

while any effort brought on an approach to syncope. No disease was discoverable by the sounds of the heart or respiratory organs, though some suspicion was entertained of slight dilatation.

The state of the urine alone threw some light on the nature of the disease. It had long deposited a very copious sediment, of a whitish color, slightly tinged with purple, which was redissolved by dilution, with the addition of an alkali. It appeared to consist of lithates, with some chyle; and it was thought probable by the medical gentleman who had previously attended the patient, and by myself at our first meeting, that an exhausted and exsanguineous state, brought on by a long continued draining of the system, constituted the principal disease, or at least that which first required attention. Under these circumstances, it was determined to try a restorative and repletive plan. A nourishing diet was ordered, with malt liquor and some other stimulants. His stomach would receive but little, and at length rejected food. His exhaustion increased to that degree that immediate fatal syncope was threatened. We determined, the patient being obviously *in extremis*, to try the effect of transfusion, and as patients under cholera had borne the injection of large quantities of fluid, there seemed to be no danger in injecting a considerable quantity of blood. Sixteen ounces were taken from the veins of a hale young man, a servant of the patient, and were injected most skilfully by Mr. Clark. The patient was immediately revived and roused. On the following day he appeared much stronger, but complained of some sense of fulness about his head, and a few drops of blood escaped several times from his nostrils. This subsided; his appetite became good, and he ate plentiful meals of meat, and drank porter, &c. He gradually recovered his strength. The urine improved under the use of alkalies with lime-water, and these were nearly all the remedies used except a few bottles of an effervescing solution of citrate of iron. After two or three months he left his chamber, and then his house, and I understand he is now travelling on commercial business.

I think it may be inferred from the facts of this case that many lives may be saved by injecting good blood into the veins of exhausted patients, and, perhaps, this measure may become hereafter as important a remedial measure as the detraction of blood has been since the time of Hippocrates.

Prov. Med. Journ., July 29, 1843, *p.* 345.

55.—*On Oily Cantharidine as a Substitute for Blistering Plaster.* M. Buchner, senior, obtains this preparation by treating the coarsely-pounded cantharides in a displacement apparatus with weak æther of 0.776 spec. grav. until the æther passes free from colour. The greater portion of this latter is removed from the solution, and the residue exposed to a gentle heat until every trace of

æther. alcohol, and water has disappeared. In this manner 11 per cent. of the cantharides employed is obtained, of a product which is liquid at a temperature of 76° to 86°, but becomes solid at 68°. It has a buttery, unctuous consistence, a greenish yellow colour, and a very disagreeable odour, which affects the head. 10 to 15 centigrammes suffice to produce a great blister; it must be applied on taffety or on paper.

The following notice on the above communication is by M. Soubeirm :—The oily cantharidine of M. Buchner differs but slightly from the preparation employed in France, and which is obtained by treating the cantharides with officinal æther. It is an oily substance, which was recommended long since by M. Trousseau as vesicatory; and in fact it is very useful when recent, but if preserved the cantharidine separates gradually in the state of crystals, and the blistering property disappears. The following preparation, of which I have taken the formula from some German journal, but do not recollect the author's name, is employed to far greater advantage.—

Extract Acetic of Cantharides.—Cantharides in coarse powder, 4 parts; concentrated acetic acid from wood, 1 part; alcohol of 0.849, 16 parts.

Digest in the water-bath in a temperature of 40° to 50°, collate with pressure, filter, distil, and evaporate at a gentle heat. The product has a buttery consistence. M. Trousseau, who experimented with it, has been extremely well satisfied. It is only necessary to grease a little paper with this extract, and to apply it to the skin, to have in a very short time a blister formed. The consistence of this preparation, and especially the presence of acetic acid, prevent the crystallization of the cantharidine.—*Chemical Gazette.*

Dublin Journal of Medical Science, July 1843, *p.* 539.

56.—*Counter-irritants in Bronchitis.* [Dr. Graves, in his work on clinical medicine, makes some excellent remarks on counter-irritant remedies, which are to be applied not merely over the chest, but to the nape and along the sides of the neck, over the epigastrium, and in the course of the cervico-spinal and pneumogastric nerves generally. He thinks that—]

The spirit of turpentine exercises something more than a mere counter-irritant action, and proposes the following formula for imitation :—

Strong acetic acid, ʒss; spirit of turpentine, ʒiij; rose water, ℥iss; essential oil of lemon a few drops; yelk of egg, sufficient to suspend the turpentine.

British and Foreign Medical Review, July 1843, *p.* 246.

57.—*On the Malambo, or Matias Bark.* [This bark comes from South America: Dr. Mackay brought it before the notice of the British Association, and gave a portion to Mr. Houston for examination. It possesses a bitter, pungent taste, and forms with water an agreeable bitter infusion; with alcohol a powerful bitter tincture.

Mr. Ure thinks that it coincides with Malambo, the Indian name for the bark of a tree which grows in New Granada, and which is held in high esteem among the natives as a febrifuge and stomachic. Mr. Ure says—]

The above Colombian bark has been frequently administered by me as a substitute for cinchona with good effect. It offers the useful combination of a tonic and aromatic; and seems to exercise its beneficial influence on the principle laid down by Professor Schultz, with regard to other therapeutic agents of the same class, namely, in promoting an increased flow of bile, whereby digestion is perfected, and healthy blood formed. In scrofulous ophthalmia, after removing feculent accumulations from the bowels, I have known an infusion, made with two drachms of the bark to a pint of water, cause a speedy and complete removal of the inflammation and morbid sensibility of the eyes. The dose of the infusion just mentioned is from one to two ounces, repeated twice or thrice in the course of the day. It may, in some instances, be advantageously conjoined with salts of iron, or of mercury, with both of which it is compatible. The addition of a little syrup of orange-peel and compound tincture of cardamom forms a draught by no means disagreeable.

Pharm. Journal, vol. 3, *No.* 4, *p.* 170.

58.—*Vomiting a Cure for Phthisis.* It is stated that 176 patients under consumption, 47 in the incipient, and 129 in the advanced stage, admitted during a period of four years into the military hospital at Capua, were ultimately discharged perfectly cured, their treatment having consisted in the administration of a table-spoonful night and morning of the following mixture:—Tartarised antimony, three grains; syrup of cloves, an ounce; decoction of marsh mallows, six ounces; mix. The dose was to be repeated until vomiting ensued.—*Annali Univ. di Medicine.*

Lancet, July 22, 1843, *p.* 583.

59.—*Mercurial Cigars.* M. Paul Barnard lately proposed to the Acad. de la Medicine, the use of cigars impregnated with a weak solution of bichloride of mercury for persons affected with syphilitic affections of the throat and palate, as a mode of conveying mercurial fumigation. It has been proposed first to deprive the tobacco of its narcotine by frequent washings.

Lancet, May 13, 1843, *p.* 216.

60.—The *Courier Français* states that a most curious experiment has been lately made in the hospital of the Salpetrière at Paris with a machine invented by Dr. Payerne, called the purifier, the object of which is to purify the air, without renewing it, in hospitals, prisons, mines, diving bells, and, in general, in all places where the air has been vitiated. This experiment was witnessed by several distinguished chemists and physicians. Dr. Payerne, purified the air completely in an enclosed space without communication with the external air. The thermometer, at the same time, descended several degrees. Dr. Payerne proposes, in a few days, to make an experiment with his machine in a diving bell in the Seine, by which the divers may remain an indefinite time under water without communication with the atmospheric air.

Medical Gazette, Nov. 10, 1843, *p.* 191.

61.—*Uric Acid Soluble in Lactic Acid.* Dr. Challier, of Dublin says, "Whilst engaged last year in some chemical investigations, I found that uric acid was readily dissolved in lactic acid, I believe that uric acid is kept in a state of solution in those liquids in which it is found to exist, such as urine, by the presence of a certain proportion of lactic acid, and, consequently, if there be a deficiency in the proportion of the latter, the quantity of the former deposited will be in an equivalent ratio. If this fact be once well established, the results will be highly important, inasmuch as it will elucidate altogether the obscure phenomenon of the formation of the uric acid calculus, which is universally known to be the most frequent. It will also furnish us with the data for a more correct constitutional treatment of the disease. That lactic acid is capable of dissolving phosphate and oxalate of lime, &c., is a fact already noticed by chemists, but it is singular that medical men have entirely overlooked this property, which it is more than probable can be made available in the treatment of anormal deposits.—*Dublin Medical Press, September* 13, 1843.

Pr v. Med Jour. Oct. 21, 1843, *p.* 60.

62.—*Advantage of Medicines in a liquid form.* It has been found that fifteen grains of sulphate of quinine, given in infusion of senna, is more efficacious as a tonic, notwithstanding the purgative quality of the mixture, than twenty-four grains of sulphate of quinine administered in the form of pills. Panizza supposes the causes of this to be that the senna, by promoting the peristaltic action of the alimentary tube, and augmenting the secretion of the bowels, excites the production of a fluid adapted perfectly to dissolve the quinine; and that the quinine, in passing through the intestine in a state of solution, is placed in contact with a much larger extent of surface, and disposed for absorption much more readily than if taken in a solid form.—*Panizza, in L'Experience.*

Lancet, Nov. 4, 1843, *p.* 158.

SURGERY.

63.—ON DISLOCATIONS OF THE ASTRAGALUS.

By Thomas Turner, Esq., Surgeon to the Manchester Royal Infirmary, Lecturer on Anatomy, Physiology, Clinical Surgery, &c.

[This is one of the best papers which have recently appeared in our periodical literature, and though it treats of a subject which may not so frequently be met with in general practice, it is the more difficult to handle. In giving an abstract of this paper, we shall pass over that part which treats of the anatomical relations of the astragalus, and of the forces by which dislocations of this part are produced, and will confine our remarks as much as possible to the treatment required. This will be comprehended under the following divisions:—1. Partial reduction. 2. Complete reduction. 3. Left to nature in its new situation. 4. Partial excision. 5. Complete excision. 6. Amputation]

Partial reduction is shown by the results to be (as we might, *a priori*, suppose) less favourable than *complete reduction.* In dislocations backwards, the sequel of *allowing the bone to remain in its new situation* has been most satisfactory; but not so in dislocations in the other directions. *Partial excision* left a useful foot in three out of six cases; in the remaining three there were deformity, lameness, and anchylosis. The results of *complete extirpation* of the astragalus have been very encouraging, when we consider the desperate character of the accident which demands this formidable mode of procedure. In 13 cases out of 18, a very useful limb remained; in one only was there true anchylosis, and death occurred in four cases. In no simple case was there a fatal result; it is, therefore, to be presumed, that death happened rather from the conjoint injuries which the soft parts sustained by the violence which produced the compound, and compound and complicated luxation of the bone, or by the force used in attempts at reduction, or both united, than from the operation itself; and there is a weighty argument in support of this opinion, in the fact, that the cause of death in the four examples was diffuse cellular inflammation, extensive suppuration, sloughing, &c., the latter being the sequel of the former; and as affording additional evidence of this truth, it may be mentioned, that in three out of the four cases the accident was *compound* and *uncomplicated;* therefore

cases where there was no division of the effects of force, but a direct concentration of it on the joints and surrounding textures. That the degree of injury which the soft circumjacent tissues receive, has a material effect in influencing the result, is further demonstrated by the fact, that dislocations in the anterior and posterior aspects of the foot, do much better than lateral luxations, as they are not usually accompanied with so much laceration of the ligaments, tendons, fasciæ, and skin, in the former as in the latter localities.

[In all these cases one very important circumstance to attend to is to distinguish between partial and complete luxation. It would appear that the partial reduction of a complete dislocation is almost as difficult to effect as complete reduction, and if the bone can be partially reduced, the unreducible portion, in case the dislocation be compound, should be excised, to prevent the foot from becoming permanently fixed by the mechanical obstacle which the projecting bone opposes to the movements of the ankle.]

If the astragalus be partially dislocated, and not twisted round, as it often is when the dislocation is complete, there is reason to hope that reduction may be accomplished; because if the bone retains, in part, its position between the tibia and os calcis, the main obstacle to success, namely, the forcible traction of the one bone to the other, will not occur; this obstacle to reduction, which exists in all cases of complete luxation of the bone, in whatever direction the astragalus may be ejected from its articular surfaces, is not brought about by the action of the gastrocnemii alone, but by all the muscles which pass from the leg to the foot, behind the malleoli; and, therefore, although we should gain a point in bending the leg upon the knee, by which we relax the gastrocnemius externus and plantaris, we cannot annihilate the action of the soleus, the peronei, tibialis posticus, and flexor muscles of the toes, in the same way; as the foot is in this accident often fixed, and cannot be extended, so as to enable us to put these muscles in a state of relaxation. In cases where the astragalus is changed in its position, the bone is always very firmly locked in its new situation. It is recorded that in three or four instances in which M. Dupuytren extirpated the astragalus, he found the bone fairly turned over upon itself, and the same has been noticed by the author and by other surgeons. This eminent surgeon, (Baron D.,) reasoning upon this fact, states "that we cannot be much surprised that the reduction of dislocation of the astragalus is so difficult, or even altogether impracticable; but even when this bone has not become reversed, we shall find that the configuration of its articulating surfaces, and of the os calcis, suggests a very obvious explanation of the danger of their forcible disjunction and separation.

In considering the subject of reducibility and irreducibility of the astragalus, when completely luxated, we must always remember that the bones of the leg are actively and forcibly drawn

towards the os calcis, so as to obliterate the space normally occupied by the astragalus. This being admitted, the question of reduction involves, firstly, the possibility of separating the bones of the leg from the os calcis, to such an extent as will admit of the replacement of the dislocated bone. If the space gained by extension, counter-extension, and other manœuvring, be sufficient for this purpose, if the bone be not much detached from its connecting textures, and not inverted, everted, or turned upon itself in any considerable degree, it might be restored to its primitive situation; but the safety of returning it is the next and a very serious consideration; since, if the bone be so loose and detached as to be capable of being easily reduced, is it not likely that it will die from want of sufficient vascular connexions; and shall we not thus put the patient in a more hazardous condition than if the astragalus had been excised or allowed to slough from its new situation? A reference to cases will prove that in many instances of dislocation forwards, inwards, and outwards, simple as well as compound, that the bone sloughed where extraction was not performed; but in the instances of luxation backwards, the bone scarcely seemed to act at all as an extraneous body, *i. e.*, it neither died nor did it excite any great amount of local or general disturbance; this difference in the results of dislocation backwards, when compared with anterior and lateral dislocations, justifies a more decided negative to extirpation of the bone in the former case than in the latter instances. In irreducible simple dislocations forwards, inwards, or outwards, the author would not extract the bone in the first instance, but in most compound cases he would not hesitate to do so without a moment's delay. In revising the subject of reduction, it is obvious that the rigid and unyielding approximation of the leg to the foot, by the powerful action of muscles, is the most insuperable obstacle to the replacement of the luxated bone; but although the main difficulty, it is not the only one: the bone may be girt by the capsule of the joint, and by tendons of muscles; but these are, comparatively speaking, trifling impediments in the way of reduction. It can easily be imagined that the girting effect of an opening in the synovial capsule, only just large enough to give exit to the astragalus, would be one impediment to reduction; that the circumstances of the bone being embraced by the fibres of the torn ligament, by separated and displaced tendons, and by the edges of a small integumental opening, would all and severally oppose replacement; but they would not prove insuperable obstacles, as the opening in each may be extended.

[Mr. Crosse of Norwich, suggested to the author whether or not the division of the tendons passing behind the ankle to the foot, would be justifiable as a means of annihilating the action of those muscles which form such an obstacle in these cases. Mr. Turner says—]

It is quite certain that the division of the tendons which pass to the heel, and behind the malleoli, would have the effect of subduing the action of the muscles which draw the foot to the leg, and fix it there; but there are considerations connected with this practice: firstly, we must here revert to the observations which we made when speaking of reduction, namely, that the astragalus may be so far insulated from its soft attachments, from which the periosteum derives its vessels, as to render the death of the bone inevitable; in which case it would act as a foreign body, and more harm than good would result from its replacement. Secondly, if the tendons were cut through behind the ankle, they would be retracted in their thecæ so as to lose all attachment with the bones of the foot; the foot, therefore, would become a passive appendage to the leg, and would fournish no basis for it unless anchylosis (which is not the most favorable termination) took place, and the proper angle of the foot with the leg preserved.

In complete compound dislocations of the astragalus alone, without fracture or solution of continuity and connexion in the bones and joints of the tarsus, all attempts at reduction are not only hopeless but prejudicial; and although we may be justified in hazarding the chance of allowing the bone to continue in its new situation, where the luxation is simple, extirpation ought always to be performed when the accident is of a compound kind.

If the astragalus be completely luxated, whether in a simple or compound way, and there is no derangement in the position of other parts about the joint, save the approximation of the tibia and fibula to the os calcis, which, I contend, is the invariable attendant on *complete* luxation, the bone is almost immoveably fixed in its new situation, and reduction is almost impossible; and, again, when the bone is reversed in position, or thrown out of its natural axis, replacement is absolutely impracticable.

If the astragalus cannot be reduced, the inquiry which next obtrudes itself upon us is, whether the dislocated bone ought to be permitted to remain in its abnormal situation, with the hope that, should it not die, nature will in time accommodate herself to its presence, and experience therefrom no great degree of inconvenience; and that, should it die, whether ulceration will ensue and the bone be cast off by natural means? The question is one which demands deliberate consideration. We have seen, in the detail of cases, that in all the dislocations backwards (one excepted) the cases were left to nature, and did well; the conclusion, therefore, at which we may safely arrive is, that in this kind of luxation we are not to interfere, except by making reasonable efforts at reduction; for the case ought not to be abandoned without hope, as Mr. Liston succeeded, on one occasion, in reducing the bone. The author stated that in once instance of luxation of the astragalus from the os naviculare, the bone was allowed to remain in its new situation; and although the movements of the foot were for some ime restrained, yet ultimately they became

free. This is encouraging in reference to this form of accident, and may be applied to confirm the belief, that if the astragalus be partially and simply luxated either forwards, outwards, or inwards, and is irreducible, we should not interfere, but leave the case to the resources of nature. But what is to be done in case the dislocation is *complete*, *although simple?* Mr. Syme, Baron Larrey, and some other surgeons, advocate removal of the bone. Boyer and others seem by their practice to be opposed to this opinion.

Mr. Turner thinks that the following is the safe line of practice:—In partial cases, whether simple or simple and complicated, should attempts at reduction fail, there must be no operative interference. In partial and compound, or compound and complicated, (reduction failing,) excision, if practicable, of the protruded portion of bone should be performed. This proceeding gives great facilities to the proper adaptation of the parts; but leaving this out of the question, by neglecting partial excision we incur one of two risks: firstly, the exposed or prominent part of the bone may die, and the patient have to undergo the tedious and trying processes of inflammation, suppuration, and exfoliation, and the death of one part of the bone may endanger the vitality or disease of the remainder, and ultimately involve the ankle joint (as in one of M. Boyer's cases), and demand, as a last resource, amputation, as the means which alone could give to the patient a chance of life; and if the extruded portion of bone should not be excised, and continue to live, its presence would so far restrain the action of the ankle as to produce permanent contraction of the heel, permanent inflexibility, and permanent lameness, as in one of our recorded cases. It is, however, to be remembered that this practice does not apply to *partial* and *simple* dislocation of the astragalus in *any* direction; for the justifiability of operation in partial luxation, when there is no external wound having a direct communication with the displaced bone, is very questionable. The practical proceeding in complete and simple, or simple and complicated dislocation, will be determined by the position of the bone: if its protrusion be direct, in reference to its axis, and cannot be reduced by moderate efforts, the case ought to be left to nature, because, although the chances are against its remaining passive, it will be well to wait the event; and should the skin inflame, and other matters predicate the tendency to ulcerate through, it will be better to save the patient this source of irritation, by an incision over the site of the astragalus, and leave the extrication of the bone to the efforts of nature, or at all events until it is so loose as to be easily extracted. The grounds of this practice are, to take off tension, to abridge the process of ulceration, and to put the parts in such a position as will remove pressure from the adjacent textures.

[In some of the cases related by Mr. Turner, the astragalus was *partially* removed. Cases of this kind are related by Mr. Lowe,

Mr. Ceeley, Dr. Stevens, and others: but a better practice is the complete excision of the bone. On this subject Mr. Turner says—]

It is no longer problematical, as to the expediency and safety of extracting the astragalus in certain cases of dislocation of this bone; for in addition to the eighteen examples given in the table, there are others mentioned in the progress of our inquiry; and it will be remembered that the operation was successfully performed by Fabricius de Hilden, by Larrey, and by the late Mr. Trye, of Gloucester, and doubtless by many others, whose cases have not been made known to the profession through the medium of the medical press.

The testimony of our most distinguished British surgeons, and of those on the continent, is in favour of excision. Baron Larrey, who had not seen many cases of luxation of the astragalus, has given it as his opinion, that it is an accident which requires extraction of the bone; and Baron Boyer, who has written most ably on the subject of dislocations, says, "that if the astragalus has almost escaped through the wound in the integuments, and the ligaments much torn, the wisest course to adopt is to extract the bone, since in this case the astragalus must be considered as a foreign body; therefore, if it could be returned to its natural situation, it would not be likely to unite with the other bones of the foot, and, therefore, its presence there would be a source of serious consequence." It is an opinion to which every surgeon must subscribe, that if the astragalus were completely luxated and severed from all or most of its connecting textures, the best practice would be to extirpate the bone; but it is important to determine in what instances it is particularly demanded. Our table will show the cases in which the operation of extracting the bone, either immediately or consecutively, was adopted, and it gives the results. In 18 cases, 13 recovered with useful limbs, one with anchylosis, and in four cases death ensued.

[Few patients, perhaps, would submit to the bone being removed without some attempt at reduction. This, therefore, ought previously to be made, except in some cases in which experience has proved that it is impossible and positively injurious.]

Complete excision may be called for, sooner or later, in the progress of the case, or its performance may be immediate. Simple cases may be followed by the death of the bone, subsequent ulceration, and sloughing, consequent upon which it may be required to excise the bone from its ligamentous and cellular connexions. The author has ventured an opinion that nature ought to be aided in the ulcerative process of the skin and subjacent fascial textures by incision, and that the surgeon's subsequent aid is useful in extirpating the bone. When simple and complete dislocation is indirect, *i. e.*, attended with altered axis of the bone, it is fair to presume that the astragalus has been so far

severed from all its connexions as to die infallibly, in which case, the author would propose immediate incision over the bone, with a view to remove tension and to expedite its escape; but it might not be proper to proceed to the immediate excision of the astragalus. But in isolated compound dislocations no attempt should be made to reduce, but extirpation immediately had recourse to; and especially, and beyond all controversy, if the bone be inverted, everted, or turned upon itself; for if this practice be not followed, the patient will, to say the least, remain a cripple for life, with his foot miserably distorted, or will incur imminent peril from inflammation, suppuration, and gangrene of the foot and leg, and probably loss of limb or life; whereas, by the removal of the astragalus, he may recover with a useful foot, and be exposed to little comparative danger.

It may be summarily stated, that in simple, direct, and complete luxation, the author advocates the practice of allowing the bone to remain in its new situation, without any operation, until it manifests a tendency to ulcerate the skin, in which case he would make an incision over the bone to relieve tension and pressure; and that when the bone is so far detached from the circumjacent textures by the natural process of separation, he would remove it. In simple, indirect, and complete luxation, he would anticipate, as a matter of certainty, that the bone would die and require dislodgement; to take off tension and pressure from the angles of the displaced bone, he would at once make an incision over it, but not remove the bone, wishing to benefit by the probability that the exposure of the cavity of the joint may have an injurious effect. In complete compound luxation, whether direct or indirect, or complicated, with fracture or with dislocation of the ankle joint, he would immediately proceed to the removal of the astragalus, from believing that the limb will be put in a better condition for the reparative process of the joint, by the abstraction of the processes of inflammation, suppuration, ulceration, and sloughing (processes necessary to the disengagement of the astragalus by natural efforts); for if these be saved, nature will be able to direct, undividedly, her sanatory operations to the interior or deeper seated parts; whereas, if her powers are divided between the extrication of the astragalus from its abnormal situation, and the reparation of the joint, they might be insufficient for the purposes required, and the limb or life fall a sacrifice.

The operation of excising the bone may be very easy, and free from danger when the bone has been almost wholly separated from its connecting ligaments and other textures; but in other cases its attachments may be so firm, and the space in which we have to dissect so much encroached upon by displaced tendons, and the posterior tibial artery so denuded of its protecting coverings, as to render the operation of extirpating the bone not only exceedingly difficult, but without great care exceedingly dangerous; this latter circumstance, however, is the main source of

danger, as the artery is much exposed, and in some instances it has ulcerated or sloughed, and given issue to alarming hæmorrhage.

The after treatment of the operation consists in placing the leg and foot in close apposition, with due attention to the proper angle of the one with the other; and in this position they are to be kept by splints and apparatus with foot board. Great caution is necessary to keep the tibia well applied to the os calcis, for if the former were to become displaced much backwards, there would be no union, and no joint, and the foot would become a loose and useless appendage to the bones of the leg. In almost every case the length of the affected limb is diminished about one inch, a defect which may be easily compensated for by the use of a high-heeled shoe.

[In his report Mr. Turner has recorded some cases in which the limb was amputated in consequence of other severe injuries being associated with dislocation of the astragalus. In all these cases the surgeon ought ever to bear in mind what severe operations may be performed connected with the ankle, with safety and success. The sawing off of the extremities of the tibia and fibula, excision of bones, and exposure of joints, have all ended successfully; in short, as Mr. Turner says—"That dread which surgeons entertain with respect to wounds of joints, and disarticulation of bones, seems almost to vanish from the mind when the ankle and foot are concerned, since the annals of surgery furnish us with more terrible operations and practices, undertaken about this region, than about any other part where similar textures exist."]

The injuries which require the consideration of *immediate amputation* of the limb, in connexion with our present inquiry, are laceration and contusion of soft parts, united with simple, simple and complicated, compound, compound and complicated dislocations. The injury to the circumjacent textures ought to be extremely severe ere amputation should be had recourse to; but no general rule can be given to the surgeon, since much must depend on the age, constitution, and habits of the patient. If young, and in vigorous health, the case may, in a general way, be hazarded; but in a person past the meridian of life, of unsound constitution, and further impaired by debauchery and over stimulation, amputation would become a matter for serious deliberation. A person more advanced in years, healthy, and not prematurely aged by excess, would stand a better chance than the last patient; therefore, more may be risked in this than in the preceding instance. The truth of these practical deductions might be illustrated by numerous examples.*

Trans. of the Prov. Med. Assoc., vol. II. p. 367.

* Mr. Turner, in his paper, refers particularly to the assistance which he derived from the communications of Mr. Smith, senior surgeon of the Leeds Infirmary, whose attention had for some time been directed to the same subject, and who intended to have published a paper on these dislocations, had he not been anticipated by Mr. Turner.

[There is an excellent memoir published by MM. Rognetta and Fournier Deschamps, on extirpation of the astragalus.]

It affords confirmation of the practice advocated by Mr. Turner, and likewise illustrates the old remark, that over-abundance of advice, though useful to the surgeon, is not always so to the patient, the latter, having in this case, in consequence of the multiplicity of surgeons, narrowly escaped losing his limb, instead of preserving a very useful one, as he now does. The case affording the text for this memoir, was one of the many serious injuries supplied by the horrible catastrophe on the Versailles railway in May 1842. It was one of compound dislocation, with fracture of the astragalus, unattended with much contusion of the soft parts. Some difference of opinion existed amongst the surgeons who first saw the case as to the line of practice to be followed; the authors preferring excision of the bone, whilst another surgeon proposed amputation. Some delay in consequence followed, but ultimately the bone was excised by M. Rognetta, and the patient recovered completely. The most remarkable feature in the case is, that the patient recovered without shortening of the limb, a result which one could scarcely credit, were the case not well authenticated, inasmuch as in every other recorded case where a similar practice had been followed, the reverse, as might be expected, was the consequence.

London and Edinburgh Monthly Journal of Medical Science Aug. 1843, *p.* 745.

64.—ON LITHECTASY.

By W. Fergusson, Esq., F.R.S E., Surgeon to King's College Hospital, &c.

[We have before referred to this operation, which is so highly extolled by Dr. Willis,—and a successful case of which was published in Retrospect, vol. 7, art. 52, in which Mr. Elliott, of Carlisle, fully confirms the favourable report made by Dr. Willis. This case of Mr. Fergusson, however, was not successful, and is the means of drawing from this gentleman some observations which tend rather to discourage the operation than to encourage it. We do not think, however, that one or two cases ought to discourage an operation which is supported by respectable testimony as to its safety and efficiency. Alex. Brakefield, aged 64, was admitted into King's College Hospital under Mr. Fergusson's care. The case was one of long standing, having commenced 12 years ago with difficulty in making water, which continued for seven years, when symptoms of stone appeared. At the time of the operation a stone about the size of a walnut was detected, and also several smaller portions, which were supposed to be mostly fragments. The steps of the operation were as follow—]

To-day had an enema at eleven o'clock, A.M.; and at half-past one was brought into the operating theatre and bound up in the usual manner as for lithotomy, an ordinary sized staff, with the groove on the convexity, having previously been introduced into the bladder. The staff and scrotum being held as for the ordinary operation, an incision was made along the raphé about one inch and a half in length, terminating about half an inch in front of the anus, from which point two incisions, each about three-fourths of an inch in length, were carried downwards and outwards. The superficial cellular tissue being divided to a similar extent, the point of the knife (a common lithotomy bistoury) was thrust into the groove of the staff a little in front of the triangular ligament. The edge of the blade was so applied as to divide the triangular ligament to a slight extent first downwards and outwards on one side, and then in a similar way on the other; the groove of the staff being then distinctly felt by the forefinger of the left hand, the metal point of an Arnott's dilator was placed within it, and slid cautiously into the bladder. The staff was next withdrawn, and the bag of the dilator was partially distended with a solution of gum arabic, the distention having been continued until the patient complained of pain. He was then unbound and carried to bed. He seemed to suffer little during the operation, and when removed from the table his pulse was firm and countenance cheerful. Very little blood was lost from the wound.

Three o'clock, P.M.—Feels a little pain in the perineum from the action of the dilator, into which additional quantities of fluid have been thrown at brief intervals. Had a desire to void his urine, which has just been drawn off by slipping a female catheter along the upper surface of the dilator, and now feels relieved. Fluid quite clear.

Four, P.M.—Five ounces of urine have just been drawn off by the catheter, some of the fluid from the dilator having been allowed to escape before slipping the instrument along; dilator again distended, and patient making no further complaint. A slight oozing of blood from the wound.

Five, P.M.—Has had slight shiverings within the last half hour. The dilator being now fully distended has been withdrawn, and one of larger dimensions substituted. This instrument is provided with a tube in the centre, which permits the urine to flow freely from the bladder.

Seven, P.M.—Complains of slight pain above the pubes, and also in the perineum in the course of the dilator. No more shivering; pulse 96, full and strong; has taken a little tea, and had about an hour's sleep; blood still oozing from the perineum.

Ten, P.M.—Has less pain; feels much more comfortable; has slept again, and feels refreshed; pulse 92; skin cool; tongue moist, and little thirst. About an hour ago had great desire to make water, accompanied by some straining. The dilator with-

drawn, and a larger one introduced, the house-surgeon being instructed to fill it at intervals in accordance with the patient's feelings.

25. One, five, and nine, A.M.—Nothing unusual during any of these intervals. Has slept pretty well; pulse averaging about 84, and in every respect seems as comfortable as could be expected.

At nine o'clock the dilator (about one inch and a quarter in diameter) seemed fully distended, and it was resolved to attempt the extraction of the stone. The patient was placed on the edge of the bed, and (the dilator having been removed) the forefinger of the left hand was passed along the wound through the neck of the bladder until the stone was felt. Some fragments lying close beside the neck of the bladder were removed by aid of the scoop, which required to be introduced several times, when a small pair of forceps were used to seize the stone. This being effected with little trouble, an attempt was made to extract, but with no benefit, the stone seeming too large to pass along with freedom. A pair of forceps slightly larger were then tried, and next a hook, but with no favourable result. The forceps were again used, and with some additional force, but still there was resistance. The blades were now forcibly closed with a rapid motion, when the stone split into fragments, which were readily removed without further trouble. A careful search having been made for fragments, and the bladder having been cleared with a syringe and warm water, the patient was replaced in bed. He seemed fatigued and shaken by the proceedings, but was speedily relieved with a little wine and water. More blood was lost than during the cutting part of the operation. The different fragments of stone weighed, together, two ounces.

Eight, P.M.—In the early part of the day had slight shivering with a weak and fluttering pulse, but soon got better after taking a little wine. Pulse has risen in the course of the day from 98 to 124. Has complained of pain in the wound, also in the abdomen immediately above the pubes, and has felt oppressed with heat, the day being very warm. Has been thirsty, and the tongue has occasionally been parched. In the evening has had slight vomiting of a greenish coloured fluid. Has slept at intervals; bowels been once moved; urine passing freely through the wound; has taken from time to time small quantities of barley-water with a little wine, and sometimes an effervescing draught.

26. Nine, A.M.—Had an opiate and diaphoretic mixture last night; has slept tolerably well, though occasionally restless and still troubled with complaints similar to those of yesterday. Vomiting of a bilious character, and has been ordered five grains of blue pill. Abdomen has been fomented, from which he has experienced some relief.

Ten, P.M.—Has improved during the day. Has now no sickness; tenderness of abdomen gone off; bowels have been moved

twice since the morning; skin cool and moist; tongue almost natural; pulse 88; respiration 18, easy; water passing freely by the wound.

27 and 28.—Everything going on rather favourably, although in the course of a day the pulse and respiration vary considerably. Complains at times of pains in different parts of the body and abdomen. Wound looks healthy, and urine passes freely.

29. Nine, P.M.—Has had a restless night, and complains of tenderness of the abdomen, which is aggravated by a troublesome cough. Is rather feverish, and appears weak and depressed. Wound still looks well.

Ten, P.M.—Fever has increased during the day, and tenderness of abdomen still continues; complains of flatulency, and there is slight tympanitis. Pulse 123, small and weak. Appears low and distressed, having an anxious, pinched expression of countenance. In the course of the day the wound has looked sluggish, and hot dressings have been applied. To have an ounce of wine every hour and five grains of sesqui-carbonate of ammonia with one drachm of compound tincture of cardamoms in an ounce of camphor mixture every four hours. An opiate enema in the evening.

30. Since last night has gradually become weaker. Brandy and wine have been exhibited at frequent intervals, but with no benefit. He died at seven o'clock, a.m.

Sectio Cadaveris, thirty hours after death. The peritoneum contained a small quantity of sero-purulent fluid, but presented no trace of active inflammation at any point. In the *cul de sac* between the bladder and rectum the surface was of a blue colour, such as is the effect of putrefaction in warm weather. The surface of the wound, so far as it could be seen on looking from the perineum, was of an ash colour. The rectum and bladder, with the skin and other tissues in the perineum, the symphysis pubis, and a portion of the penis, were removed. The fat and cellular tissue were cleared away, so as to permit a more accurate inspection of the parts in the vicinity of the neck of the bladder. Between the angle of the pubes and the latter part the textures seemed in a natural condition; there was no appearance of contusion, laceration, or infiltration of blood. Towards the right side of the prostate there was slight ecchymosis, but the external surface of this gland, on the left side, was in a natural condition. The cellular tissue between the bladder and rectum, and that lying on the outer surface of the gut, was softened and slightly infiltrated with a sero-purulent fluid. The softening appeared partly the result of inflammation and partly of putrefaction. The side of the rectum next the opening into the bladder was of a bluish colour, similar to that on the lower part of the peritoneum. The ureters (especially the left one) were larger than usual; they were traced into the bladder, and at these points, as well as in the site of the vesiculæ seminales, the bladder, although, externally, it seemed healthy, was somewhat thickened. The finger passed

readily along the opening into the bladder, coming, in its course, into close contact with the rectum. The lateral lobes of the prostate were distinctly felt, the inferior and upper portions being by no means so perceptible as usual. The aperture here seemed like a vertical slit. The original opening into the urethra was at the back part of the bulb, and in this vicinity there were scarcely any traces of contusion. The interior of the bladder was exposed by a semilunar incision through the tunics on the left side. The mucous membrane presented no appearance of inflammation; it was, however, extensively sacculated, and several of the pouches were filled with concretions, some of them forming distinct elevations, about the size of peas, on the outer surface of the bladder. The membrane at these parts was remarkably thin. A close inspection of the neck of the bladder in the vicinity of the orifice detected slight marks of contusion, and here the surface of the opening appeared somewhat ragged, and it was apparent that the prostate had yielded chiefly in its lower part and next in its upper. The wound was covered with shreds of lymph, and here the colour was similar to that observed on the perineal end of the opening. A slit was made along the left side of the track, and the interior presented a rough lacerated surface, the mucous membrane of the urethra being nowhere visible, excepting at the upper part, where it was continuous with that in the sound portion of the tube. The kidneys were of a natural size, pale in colour and soft in texture. The right pelvis contained about eighteen or twenty small concretions, each about the size of a pin's head. The viscera of the abdomen generally healthy. No other region of the body was examined.

[This operation has not only been performed successfully by Mr. Elliott, of Carlisle, but also by Dr. Wright, of Malton, on a subject advanced in years, who seemed an unfavourable case for any operation. Mr. Fergusson moreover acknowledges—]

That in this particular instance the operation had not received every justice, for more force had been used in the extraction of the stone than was in accordance with the principles on which it should be conducted. The fragments had been taken away with the scoop without violence of any kind, but when the large stone was between the blades of the forceps he had felt unwilling, for a time, to relinquish the grasp, and here he had applied as much force as he occasionally used in lithotomy. In the latter operation he had often used much more, and some of the cases on which the pupils had seen him operate during the winter were examples of the kind. In these there had been no unfavourable issue; and though he admitted that lithectasy, in the strict sense, had not been perfectly performed in this instance, he could not attribute the unfortunate result solely to the force used in attempting to extract the stone entire. On any future occasion he would suggest that a longer period should be expended in using the dilator, and also that in the event of the stone proving too large for ready

removal, the lithotrite should at once be used as recommended by Dr. Willis, and as had, indeed, been done by Dr. Wright, in his successful proceeding. It was a disadvantage having to deal with a broken stone, from the possibility of some fragments being left behind, and also from the necessity for the repeated introduction of instruments to clear out the bladder; but possibly these were less to be apprehended as dangers than the application of great force, or the formation of a very large orifice in the neck of the bladder. It was his opinion that in such an operation there would always be greater difficulty in extracting a stone of any considerable size than in lithotomy; for in the latter case the wound extended down alongside of the anus, and the forceps holding the stone could be more readily depressed; while in the former the manœuvres were conducted near the angle of the pubes, and, consequently, in the narrowest part of the space between the bones, a space which the experienced lithotomist was always careful to avoid.

The probable immediate cause of death in this instance might be accounted for in various ways. Fever, like that which sometimes follows lithotomy, or a similar condition from sub-acute inflammation in the pelvis might, one or both, be adduced; or it might be said that the constitution had sunk under the inflammation, as is occasionally seen after operations on old men in other parts of the body. It was not unusual to see old persons sink after injuries of a much less serious kind than such as had been inflicted here; and he instanced a case where, after the application of a ligature to the superficial femoral artery of an aged man, death occurred on the fourth or fifth day, apparently from an inflammation having been induced in the cellular tissue of the thigh, similar to that which seemed to have been present in the pelvis in the patient whose case was under notice; yet in that instance, as in many others which he had seen, the necessary operation was completed with comparatively very slight injury of textures. Instead of attempting to account for death from any equivocal cause, he thought it most reasonable at once to attribute it to the operation; for whatever state might have existed immediately before the fatal termination, there could be no doubt that it had been brought on by the operation itself.

This case, added to the others already referred to, gave additional proof that a stone might be extracted from the bladder without cutting into the neck of that viscus, but it yet remained to be proved in how far such a proceeding was safer than the ordinary operation of lithotomy. It was only from a number of cases that such proof could be obtained. The statistics of lithotomy had been founded on the results of thousands of cases, and with lithectasy, as with lithotrity (even in the present day), such proof was still required by the results of hospital practice.

Mr. Fergusson then directed attention to the triangular or X-shaped incision which he had made in this operation. He

believed that it gave much more room than a single line, and also that it made the perineum more shallow; while, from being in the middle of the perineum, it permitted of an equal distention on both sides. An external incision, of a somewhat similar kind, might, he thought, be of service in some instances of lithotomy where the perineum was deep and the stone large. In conclusion, he stated his satisfaction with the nature of the dilator, and thought it infinitely to be preferred, for certain purposes, to the ingenious pieces of mechanism constructed by Weiss and other instrument-makers, which had been in use for the last fifteen or twenty years. The blades of such instruments usually pressed on particular points, but the bag of the dilator pressed equally throughout its circumference; and should he be required to dilate the female urethra for the purpose of extracting a stone, he would use this apparatus in preference to any other.

Lancet, July 22, 1843, *p.* 574.

[We here subjoin some excellent remarks on this subject by Dr. James Arnott, of Brighton, who seems to have come forward since these operations of lithectasy, to support his favourite idea of dilatation by fluid pressure; and we certainly think the profession is under great obligation to both Drs. Neil and James Arnott for their valuable contributions on this interesting subject. If the annals of surgery were carefully searched, we suspect that the mortality arising from the operation of lithotomy would be frightfully great, much more so than has hitherto been suspected. From accounts collected by Dr. Willis, and mentioned by Dr. Arnott, it seems that the mortality after 40 years of age is "certainly not less than one in four"; and although we cannot look upon the success of French surgeons as to be compared with that of the British, the following statement of Velpeau merits attention, not only from its importance, but also on account of the superior character of the surgeon who makes it. "In a grand total of 1,003 patients who have come under the hands of lithotomists, 616 only have been delivered of their calculi, and 387 have died or have not been relieved." It is said that the success of Mr. Martineau was very great, and that no selection of patients was made; whereas we are informed by a witness that "he carefully selected his patients." But in the midst of much difference of opinion, every practical surgeon is convinced that it is at least one of the most dangerous operations, especially in people advanced in life; and that if a safer mode of extracting the stone could be devised, it would be a very important improvement.]

The present most approved operation of lithotomy, although still called the lateral operation, approaches more nearly, in all essential particulars, the old proceeding by the apparatus major. The main distinction between the two methods does not consist in the number or form of instruments employed, but in the purpose

they are calculated to accomplish. The great object is to make a sufficient opening into the bladder, and this may be done either by cutting or by quick dilatation. Whether the sudden distention and laceration are made by a steel dilator, by a blunt gorget or wedge, by the finger, or by the forceps singly or while grasping the stone, is really a very immaterial circumstance. There is, indeed, a small incision made in the present operation, previously to the stretching, which determines the direction of the laceration, just as a notch is made in a piece of cloth previously to tearing it; but so was there also, latterly, in the Marian operation, under the name of the "*coup de maitre.*" By some operators this incision was not carried farther than the prostate gland (Bromfield cut the fore part of it), while others extended it along the whole of the prostatic urethra. The operation of lithotomy must, at any rate, be acknowledged to have retrograded to its state of transition between the old and new methods, and this has, perhaps, been wisely done; for it may be better that it should partake slightly of the evils of both than exclusively possess that of either in a great degree.

Can stone be removed without violence, infiltration of urine, injury to the coats of the bladder, hæmorrhage, exhaustion from long-continued and severe pain, or other causes of death from the operations now and heretofore practised?

It can be so removed. And this may be effected by really doing that which the operators by the apparatus major only professed to accomplish, namely by dilating the neck of the bladder and contiguous part of the urethra. But this must be done in a very different manner from that which they adopted. Instead of the dilatation being quick, and consequently painful, it must be slow and unattended with pain; and to accomplish this a very different means must be employed from any which they employed. Such dilatation cannot be made unless the pressure by which it is effected be perfectly equal, or applied to every part of the surface; unless it be of a continued nature, as from elasticity, and unless it be in the power of the surgeon or the patient himself to increase or diminish it immediately, and without irritation, according as the feelings of the patient or other circumstances may require. This combination of desirable ends cannot be obtained otherwise than by a dilator constructed on the principle of fluid pressure.

Lancet, July 29, 1843, *p.* 610

The fluid-pressure dilator, in its present perfect state, is an instrument which, with respect to the number and importance of its applications to surgery, is only second in value to the knife. Wheresoever the indication is to remove constriction from any of the larger canals of the body which can be reached by an instrument; or completely to fill their cavity, as for the suppression of hæmorrhage; or to increase their natural diameter, as for the passage of large bodies through them,—there the fluid dilator

comes into use, and far excels, both as to certainty and quickness of operation, the various means hitherto employed to answer the same purposes. Appropriate forms of the instrument are, of course, required for its different uses, and no little pains have been taken in devising these.

The opening in the perineum in lithectasy does not require to be larger than is necessary for passing the empty and condensed dilator into the membranous part of the urethra. The outward parts will yield to fluid pressure at least as easily as the neck of the bladder; and any advantage that might be gained in removing the depth of the perineum by a large incision is more than counterbalanced by the suffering it would occasion, the risk of hæmorrhage, and the period that would elapse before the recovery is complete. If difficulty should be experienced in extracting the stone through the outer parts, it would be time enough to remove this opposition by the knife when it occurs. Nor does the ease of making an opening into the urethra require a large incision; but if any difficulty were apprehended here, it could be obviated by the use of the double staff recommended by Sir James Earle, and extensively employed in France by M. Guerin. The introduction of the dilator might be facilitated by passing the canula forming its axis over a long ball-pointed wire previously introduced along the groove of the staff into the bladder. If the ball at the extremity of this wire were made of sealing-wax, it could be then broken off, and the wire extracted.

In these remarks upon the mode of opening the urethra, an opinion is expressed, with reluctance, different from that of the distinguished professor of surgery at King's College, as it may be inferred from his late operation. But Mr. Fergusson's great success as a lithotomist, while it gives weight to his observations on every question connected with the extraction of stone, may, perhaps, bias him in favour of certain practices which, however excellent they may be as respects lithotomy, are not so applicable to the new operation.

An important question respecting the dilatation is the time it should occupy. That it should not be so rapid as to produce pain or severe irritation is an indispensable condition of the process; and much must depend upon the age of the patient, the hardness of the parts to be dilated, their irritability, &c. There would, I conceive, be less risk from prolonging this to too great an extent than from the contrary extreme. In the instances where the urinary organs have been relieved of stone by a natural process, the dilatation has been very slow. In the original operation, more than four and twenty hours elapsed between the introduction of the dilator and the extraction of the stone through an opening of very moderate size, although, during this time, there was a considerable interval in the dilatation. Whether there should not always be some temporary cessations of distention, and whether the opera-

tion may not, with advantage, still more nearly resemble those spontaneous efforts of nature in which the parts are gradually adapted to the increasing distention, are questions which can only be determined by further experience. As bearing upon this, a remarkable case, related by Le Dran, may be adverted to. He kept open a large wound in the perineum, after lithotomy, for seven weeks, without injury to the patient, at the end of which he extracted a stone that had been confined in the ureter, and could not be sooner removed.

Another point to be ascertained is the degree to which the neck of the bladder can be safely and slowly distended without injury of its power of retention. In the successful and very interesting case of lithectasy, related in the "Edinburgh Medical Journal" for January last, by Mr. Elliot, of Carlisle, it is stated, that on withdrawing the dilator (although a very badly constructed one had been sent to the operator) "two fingers could be introduced into the bladder with the greatest ease along with the scoop," and that a stone, of the size of a hen's egg, might have been easily extracted. The extraordinary extent to which dilatation of the female urethra has been carried both by the slow efforts of nature and the quicker measures of art, imperfect as these have hitherto been, without injury, would remove any apprehension of such loss of power under ordinary circumstances. The enclosure of the commencement of the male urethra by the prostate gland would probably tend to restore it to its natural condition in this respect. But with so great a variety of excellent stone-breakers as have been introduced and revived by the lithotritists, and with so wide and short a channel through which to apply them, there would be no necessity, in the case of a large stone, for dilating to a very great extent. The lithotrite employed by M. Amussat, consisting of blades enclosing the stone, drawn within a tube by the force of a screw, and thus breaking the stone against the end of the tube, would be a convenient means, because when the fracture of the stone was unnecessary, the instrument would answer as a forceps, and is, indeed, only a modification of that called Hunter's forceps. With such an instrument there would be no temptation to use force in the extraction, than which nothing can be more opposed to the principles of this operation. If a stone be discovered to be larger than what the opening which has been made will allow easily to pass, it must either be broken, or the dilatation, with or without an interval, must be resumed. It would be much safer to cut the distended prostate, on the finger introduced as a director, and so to enlarge the opening, than to use force. If a mere notch be thus made, the opposing substance will give way by tearing; but from this there will be less danger than from bruising. In a case operated upon in the new way by Dr. Wright, it was found advisable to go through both stages of the operation; after dilating to a certain extent he broke the stone, and extracted it piecemeal.

And although the case is represented as having been one very unfavourable for any operation, it nevertheless proved perfectly successful.

If the distention be steadily maintained, there will be little danger of the instrument slipping out of the bladder, but this can always be guarded against by a proper bandage. The distention will be of a continued description, if air constitutes part of the injected fluid; or in some cases it might answer to make distention by the weight of a column of liquid. A current of cold or hot water might be applied in this manner as explained in my recent paper in "The Lancet" upon strangulated hernia. In applying the dilator, for the suppression of hæmorrhage in any cavity or canal, the distending of it thus with very cold water would materially assist its remedial power.

Instead of two or three distensible membranous tubes of different sizes, tied upon different catheters, or upon the same in succession as they were wanted, they may be all tied at first on the same, each having its own injection-tube. It is highly important to avoid unnecessary irritation from the passing and repassing of instruments. Yet when the neck of the bladder is sufficiently opened to admit the forefinger, it will generally be proper to introduce this in order to ascertain the size of the stone and other important circumstances.

The dilatation may be facilitated in many cases by the adoption of similar means to those employed by the accoucheur for diminishing rigidity and irritability in parts under this process. In the original case the operation of lithotomy had been performed some nine months previously, which had the effect, probably (and this I find by a marginal note in the account of the case was the opinion also of Sir Astley Cooper), of rendering the prostate gland harder and more unyielding. Great irritability of the parts, resisting the remedial influence of wearing a catheter and other usual methods, would be an objection to the adoption of this operation.

In some cases it might be advisable for other purposes as well as the removal of irritability, not only to accustom the parts to the presence of instruments, but to dilate the posterior part of the urethra by an instrument passed along the whole canal, having, like the stricture-dilator, a distensible tube of a few inches in length.

The irritability of the parts, however, which might oppose the continuance of instruments occupying the whole canal, would, of course, be much less were only the last two inches of it so occupied; consequently the introduction of instruments in the ordinary way would hardly be a sufficient criterion.

If the dilator be kept constantly distended to the degree which the patient can bear, and care be taken that the urine has an unimpeded passage through the hollow axis of the instrument, no increase of irritation can arise from the action of the urine on the wound; and, as has been remarked by Dr. Willis, before the

dilator is again withdrawn, the cut surface will have acquired a coating of coagulable lymph to protect it from infiltration.

As the urinary bladder has been cut in different parts for the extraction of stone, so may it be dilated in different parts. The principal objection to the operation of lithotomy above the pubes has been the risk of fatal inflammation from the infiltration of urine; but with the fluid dilator, acting as has just been explained, and the use of the syphon catheter (originally recommended in my tract upon stone, and since adopted in France) this objection would be removed. Where there is much disease of the prostate gland its dilatation would be injurious, though, from the equal action of fluid pressure, not to the same degree as its incision in lithotomy. The fundus of the urinary bladder is probably as dilatable as any texture in the human body.

Even after the operation of lithectasy has been commenced, should any circumstance occur preventing its being completed, no harm can ensue to the patient; on the contrary, by the opening in the perineum allowing a short catheter to be easily introduced and retained, the excessive irritability which might cause such a result, and which might render other operations unsuccessful, would be more certainly reduced than by any other measure; and, as respects the unpractised surgeon, the operation of lithotomy (in the event of this being determined upon) would be thus divided into two distinct stages, with an interval well calculated to insure or restore his composure; for how often does it happen that a greater difficulty than was anticipated in making the opening into the urethra discomposes the operator, and seriously and injuriously influences the more important remainder of his proceedings. If the dilatation be carried so far as to admit the finger into the bladder a still greater advantage of the same kind is obtained; for could the finger be used as a director, the most inexpert surgeon must succeed in terminating the operation of lithotomy in the best way its nature admits. Would not, in fact, such a combination of dilatation and cutting be a safer mode of extracting stone than the operation in present use? The slightest notch of the now thin and extended prostate (made by a very narrow knife, prevented from cutting beyond a certain definite extent, by being kept close to the finger, or even fixed to it) would be sufficient to make what remained of it give way, and so remove all difficulty, for the membranous part of the bladder would yield with ease to the required extent. But a slight incision or notch of any point impeding the dilatation, and this discovered by the finger, might be sufficient to allow of the slow dilatation being resumed and accomplishing all that was required.

In closing these remarks on lithectasy, I will take the opportunity of stating, that I shall deem it an honour to be referred to by any of my professional brethren who may have difficulty in procuring the necessary apparatus, or in understanding this imperfect description of the mode of using it. *Lancet, Aug.* 5, 1843, *p.* 650.

[As in some measure connected with this subject, we will add some valuable remarks by Mr. Sherwin, of Hull, on the treatment which is occasionally required after lithotomy, and particularly alluded to by Sir Benj. Brodie in his "Lectures on the Diseases of the Urinary Organs." These remarks were called forth by a case on which Mr. Sherwin operated, a child of nine years, the day following a journey of seventy miles; and although the operation was satisfactorily performed, the case soon assumed a dangerous aspect. On the second day, Mr. Sherwin says—]

I now felt convinced that I should lose him; as from the very onset of the attack, the vital powers seemed unable to sustain any depleting measures, and though having most of the characters of peritonitis, the symptoms precluded the antiphlogistic treatment. On referring the same evening to Sir B. Brodie's published "Lectures," I felt impressed with the fidelity of his description of the untoward symptoms following lithotomy. I caught at a suggestion he offers in a similar case, which he rescued by laying open the rectum with the wound, so as to give exit to a quantity of sanies: and I will take upon me here to remark, that the work alluded to, though offered to the profession in the simplest and most unostentatious style, is replete with the soundest principles of practice, and is a most excellent guide. But to return to my narrative.

11th, 7 A.M.—Found matters looking still worse; the boy had passed a wretched night, rolling from side to side in great pain; the belly hard and tympanitic; pulse feeble and fluttering, and hardly to be felt or counted, with more frequent intermissions; countenance of dusky leaden hue: occasional sighs and hiccoughs; tongue quite brown and dry. I now determined to open the wound, which was externally united: this was done with the handle of a scalpel, and having pushed up my finger to explore the parts, I gave exit to about 2 or 3 oz. of a pink-coloured sanies, having a fœtid and ammoniacal odour. I was glad to find the opening in the bladder small and neatly contracted, with a well-defined margin, and scarcely admitting the tip of a finger. I broke up the entire wound in the perineum, and had the patient raised out of the hollow of his bed into a more depending position; gave a little brandy and water with a teaspoonful of castor oil.

11 A.M.—Much improved in every respect; countenance calm; had slept a little, and parted with a good deal of flatus; the pulse settled to 100.

9 P.M.—Has slept well; looks happy; pulse slower; tongue is moist; has asked for tea, and bread and butter. From this time the boy did well, and he returned to his home quite free from ailment in about three weeks after.

Remarks.—The urine was alkaline, with considerable deposit of lime and mucus; this (which ought to have been done before) was afterwards corrected by mineral acids, with Decoct. Pareiræ Bravæ, and Quinine. If, instead of giving a free vent to the sanies, I had

treated the case as one of pure peritonitis, there can be no doubt but that he would have sunk in a few hours. Yet I committed an error in the first instance by operating so soon after a long journey. I relied too confidently on the youthfulness of the patient: time ought to have been allowed for the bladder and constitution to become tranquil before he incurred the additional risk of a formidable operation. Again, his bed was an inconvenient one; it allowed his pelvis to sink into a hollow, which, with my neglecting to leave a canula in the wound, allowed some of the urine to lodge between the rectum and bladder; a circumstance that has proved, probably, a more frequent source of mischief after lithotomy than is generally suspected.

Medical Gazette, Sept. 1, 1843, *p.* 801.

65.—REMARKS ON OVARIAN TUMOURS.

By Alexander Kilgour, M.D., Physician to the Aberdeen Infirmary.

[At the present time, when the removal of encysted dropsical ovaria has been frequently had recourse to, and when some degree of discredit may attach to its too indiscriminate adoption, we are glad to place before our readers any practical hints which may assist them in arriving at an accurate diagnosis. It has occasionally happened that solid growths or tumours of the ovaries, whether of a malignant or non-malignant character, are attended with an effusion into the peritoneum, or an ascites, and may thus be mistaken for the more usual form of ovarian disease, viz., the encysted dropsy. Dr. Kilgour furnishes us with some valuable hints on the diagnosis of these affections.]

The non-malignant solid enlargement or tumour of the ovary, and which sometimes attains a very great size, is generally speaking of the same character as the fibrous tumour of the uterus, and unless improperly interfered with, may exist for many years, without giving more disturbance than is occasioned by its bulk. The malignant disease is similar to that met with in the mamma, and sometimes is of the hard form; in other cases it presents the characters of soft scirrhus, or encephaloid disease. The non-malignant disease is not attended with pain, the malignant one is so generally, but not always. The latter is almost invariably attended with much constitutional disturbance; it is much more rapid in its course; and, whilst it indicates almost its nature by this quickness in its fatal pace, it frequently still further demonstrates itself by attacking the mammæ, the uterus, or the pylorus.

The fibrous and the scirrhous tumours, when felt through the abdominal wall, are smooth or rough, or knobbed or tuberose, on the surface; and no diagnosis of the two diseases can be made by

this means; but the semi-solid or gelatinous cyst is almost always smooth, and invariably, to a practised hand, gives more a feeling of elasticity than solidity, whilst traces of fluid, perhaps faint, will be discovered in partial spots of the abdomen, viz., in some of the other cysts.

The semi-solid or gelatiniform and elastic cyst is always fixed, but the solid tumour is often moveable, and, when attended with effusion, it moves about, by slight pressure in the fluid.

Now, are there any accurate means of distinguishing solid ovarian disease with ascites, from encysted dropsy of the ovarium? But, first, how is encysted dropsy itself known from ascites? Cruveilhier, in his early and small pathological manual, says:—"On n'a pas toujours de signes positifs pour distinguer l'hydropisie ascite de l'enkystée, lorsmême qu'apres la ponction on a été témoin des progrès de la maladie." But, in his later and more splendid work, he has got new light on this point, and putting the question—"by what signs can we establish a diagnostic betwixt these two diseases, a diagnostic not only interesting theoretically and as a perfecting of science, but in a practical view," he proceeds to furnish us with two:—"1st. In ascites the liquid always occupies the most dependent parts, viz., the pelvis and lumbar region; whilst the small intestines, floating in the fluid, correspond to the umbilical region, according to the observation of Frank; and the arch of the colon and the stomach occupy the epigastrium. Percussion, therefore, with the fingers on the abdomen, or, better still, the ivory plate of Piorry, elicits a dull sound over the hypogastric and lumbar regions, changing somewhat its character, according as, in different positions of the body, the fluid is made to change its place, but a clear one in the umbilical and epigastric regions; whereas, in encysted dropsy, the cyst developes itself anteriorly to the intestines which it pushes back; so that, in no possible case, and in no degree, can the tympanitic sound exist. This observation belongs to M. Rostan. Add to this, that the fluctuation is more decided in ascites than in encysted ovarian dropsy; that, according to the researches of M. Piorry, the sound over the cyst is much more dull, and that by means of percussion, mediate or immediate, the percussion may be carried to the point of distinguishing, in cases of complication, what belongs to the cyst, from what belongs to the ascites. 2d. In ascites we find the neck of the uterus in its proper place; in encysted ovarian dropsy the uterus is not forced downwards, as is generally said, but, on the contrary, is drawn upwards, so that it is impossible to reach it; whilst, also, in this latter case, the pelvic cavity is filled by a portion of the abdominal tumour. In addition to these positive signs, it may be stated, that encysted dropsy often exists with a good state of general health, whereas the reverse is the case in ascites; and that the latter has generally anasarca of the lower extremities along with it, whilst the former has not." (Ve. Liv. l. iii. p. 3.)

Such are the pathognomonic signs according to Cruveilhier; and without yielding the exclusive merit of the first to Rostan, it must be granted it is one which will very seldom fail. There is just one case, and only one, where it may mislead, and that is, where chronic disease of the peritoneal coat of the intestines has been followed by matting together of these, and adhesion to the posterior part of the abdomen, in which case they do not float on the surface of the fluid, so often effused ultimately in such cases. In regard also to the distinctness of the fluctuation in the two diseases, the observer will find that in ascites the fluctuation is distinct from one lumbar region to the other, whereas it is not felt in ovarian dropsy at this part, more especially when the patient stands erect, but otherwise, in many cases of the encysted dropsy, the fluctuation is fully as distinct as in ascites. In those cases of complication of encysted ovarian dropsy with ascites, to which it is presumed the researches of Piorry refer, it is not so much by percussion, as by manipulation, that the diagnosis is made out; for by pushing our fingers through, as it were, the fluid of ascites —and which in these cases exists only in a moderately thin layer anteriorly—we can distinguish the more confined fluid of the cyst. And, amongst the positive signs, Cruveilhier has omitted one of no little value—the form of the swelling (to ascertain which, accurately, it is necessary to observe the abdomen of the patient both recumbent and erect), for in most cases of the single large cyst (and that is almost the only case where any difficulty exists), a peculiarly rounded appearance anteriorly may be observed, and a practised eye will also detect more or less of a sulcus between the swelling and epigastric region. The position of the uterus is not to be relied on; but the good state of the general health, and the absence of anasarca are worth observing, for in ovarian disease the latter seldom occurs. In the most extensive disease of that kind I ever witnessed, where the abdomen, measuring seven feet in circumference, reached almost to the ground, and where, from the elevation, at the same time, of the chest, and in which the neck had almost disappeared, the figure of the poor woman was like that of a tortoise laid on its back: there was no anasarca of the legs.

But there is another sign which is only furnished by paracentesis—the character, physical and chemical, of the fluid drawn off. In most cases of encysted ovarian dropsy the fluid is thicker than serum, flowing through the canula of the consistence of train oil, of a greenish or dark colour, and of a saponaceous feel. Sometimes it is grumous, like drained honey, or like jelly; or it assumes these characters as the sac becomes emptied. Nitric acid added to it produces a thick coagulum, and so also does boiling. When these characters are present there can be no doubt as to the nature of the dropsy. But have we never a fluid exactly similar to that of ascites in the unilocular or single cysted ovarian dropsy? It would be held as heterodox to affirm that we have

not; and the induction that those numerous cases which we find on record of successive tappings of what were believed to be cysts, were in reality collections in the peritoneal cavity, would be held decided heresy; but, nevertheless, the proofs that such clear serum was from a cyst, are by no means so numerous as the assertions to that effect. Of the case of that famous Dame Mary Page, who thought it necessary to have recorded on her tombstone, that—"In 67 months she had been tapped 66 times, and had taken away 240 gallons of water without ever repining at her loss or fearing the operation," we may reasonably entertain a doubt, seeing that her classical and accomplished medical attendant, Dr. Mead, was only of *opinion* it was ovarian. Dr. Barlow gives a case in the Transactions of the Provincial Medical and Surgical Association, vol. iv. p. 399, in which, at five different tappings, "a pale straw-coloured serum, such as is usual in ascites, was drawn off, and which, at the sixth operation, was found to be purulent. It was ascertained by dissection that there was one large cyst. In Mr. Ford's case, (Med. Communications, vol. ii) where the patient was tapped 41 times, the fluid was also ascertained to have been secreted from one cyst, but the character of the fluid is not given. It will be found that in almost every encysted dropsy, the fluid, if clear at the first operation, and like that of ascites, becomes, after a few repetitions of the operation, purulent or thick. The chemical characters of morbid fluids in the human body do not as yet seem to have much engaged the attention of the profession. According to Dr. Marcet, there are 33 parts in the 1000 of solid matter in the fluid of ascites, and 80 in the 1000 of that of hydrocele, a difference which it is difficult to account for; but these must not be taken as absolute, for I have the notes of a case of ascites which occurred in the ward of my colleague, Dr. Dyce, where no albumen could be detected in the fluid by the usual tests. There is little doubt, it will be found, that the fluid of encysted dropsy is always much more loaded with albumen than that of ascites, and this may be made a means of diagnosis of the two diseases.

How, then, are we to distinguish solid ovarian tumour with ascites, from encysted dropsy? It is not simply because we can feel a solid tumour in the seat of one or both ovaries, and fluid in the body, that we are to conclude the fluid is in the peritoneal sac; for we very frequently find in the multilocular ovarian disease, that some of the cysts are filled with semi-solid or fungoid substance, whilst the others are filled with fluid. There is a sign, which was very observable in both of the cases already given, and which may serve the purpose—the *mobility* of the tumour, for it moves up and down in the fluid, striking the finger exactly like the child in utero, in what is termed the *ballotement*. In consequence, also, of its moving through the fluid, it presents different parts of its surface to the hand of the examiner, and he is led thereby to the idea, that there are several tumours—an error

which is only corrected by examination after the fluid has been drawn off. In the encysted dropsy, the solid tumour, if there be any present, is fixed; it is often attached to the adjacent parts; but, whether this be so or not, it is *outside* the cyst or bag of water, or forms part of the *wall of the cyst*, and, in either case, it cannot move in the fluid. Of course this sign is only available when the peritoneum is fully distended with serum. In addition, we have in such a case, the tympanitic sound of the abdomen, and the broad belly, with bulging out flanks; but we must not expect these to be so decided as in ascites from other causes, for there will be dulness over the immediate seat of the tumours, and their presence will also give somewhat of a prominence to the abdomen.

London and Edinburgh Monthly Journal of Medical Science, June 1843, *p.* 528

[We believe that the use of the *uterine sound*, or *bougie*, as described in a following article by Dr. Simpson, of Edinburgh, will be of essential service in the diagnosis of these and most other cases of ovarian, uterine, and pelvic tumours.

We find Mr. Walne has operated successfully on two other cases of ovarian dropsy, but as they present no remarkably new feature, we will only refer the reader to the account of them. (See Medical Gazette, August 11, 1843, p. 699, and Oct. 13, p. 47.)

Another case is published in the Medical Gazette, by Dr. Frederick Bird. It was a case of 17 years' duration, in which paracentesis had been performed ten times. The woman was 35 years of age. It will be seen that the operation differed from those performed by Dr. Clay and Mr. Walne, in the extent of the incision, and in emptying the cyst previous to extraction. There is much sound sense in Dr. Bird's observation, that although a small opening into the peritoneal cavity for the purpose of extracting an ovarian cyst is objectionable, yet that a too large one may be unnecessary when a smaller one is sufficient. Dr. Bird's practice, therefore, was to adopt a middle course; he made an incision of about four inches, and by emptying the sac with an elastic catheter, previous to its extraction, it was extracted with comparative ease. He relates the operation as follows:—]

June 26th.—In the presence of Dr. Hamilton Roe, Mr. B. Phillips, Dr. Andrews, Mr. Cantis, and Mr. Brown of Chelsea, the patient having been drawn down sufficiently low in the bed to admit of her legs hanging over its end, and thus rendering the abdominal walls more tense, I first made an exploratory incision a little below the umbilicus; a few careful strokes of the scalpel quickly laid open the peritoneal cavity sufficiently to allow of the introduction of the finger, which soon assured me of the non-existence of adhesions at that part. With a bistoury the incision was then enlarged to about *three and a half or four inches;* the blue cyst of the tumour immediately advanced, closing up the abdominal opening, and thus preventing the entrance into that

cavity of the blood escaping from a few divided vessels. A few minutes were occupied in arresting the little hæmorrhage, during which it was observed that the position of the tumour was changed at each respiratory movement of the diaphragm, affording satisfactory evidence of the absence of extensive adhesions. The cyst was next seized with a pronged forceps, constructed to grasp without contusing, an incision made into it, *an elastic tube introduced, and the greater portion of the fluid contents evacuated.* At each inspiration the cyst became protruded, and continued to escape until retarded for a moment by two very slight adhesions, which separated without difficulty, and the great bulk of the tumor was soon lying on the outside of the abdomen. The left hand was then introduced for the purpose of examining the pedicle, which, though thick from the increased development of the broad ligament, was quite free from morbid attachments to the viscera of the pelvis. The uterus was drawn as high up towards the incision as possible, without producing pain, and a strong curved needle, fixed in a handle, and carrying a very stout silken ligature, was passed through the centre of the pedicle, then withdrawn, and the ligature tied on either side. A third ligature of equal strength was also made to encircle the entire stalk, just below the insertion of the other two. Much pain was now complained of, and some tendency to faint: relief to the latter was quickly afforded by pressing upon the lower part of the chest and scrobiculus cordis, thus giving to the diaphragm a substituted support for the loss of that previously afforded by the tumor. The broad ligament was next divided by a probe-pointed knife; a second application of which cut through the fallopian tube, leaving not more than half an inch of the latter attached to the uterus. All the vessels being now seen to be secure, the uterus was replaced in its proper position, and the ends of the ligatures left hanging out from the lower margin of the incision. Before closing the wound I examined the opposite (left) ovary, which appeared healthy. The lips of the incision were then brought together by a few interrupted sutures, cold water dressing applied, and a flannel bandage lightly drawn around the abdomen.

[The case ultimately did well without much medicinal treatment except occasional doses of morphia and gentle aperients. From the previous operations of tapping it might have been supposed that adhesions would have resulted, more particularly at the spot where the trochar had been introduced; none however existed at that part, nor elsewhere to any extent.]

The fact of a patient having been previously tapped would, therefore, seem to offer no real objection to the performance of the operation of extirpation, and this being granted, the partial or complete emptying of the cyst may be employed for the purpose of affording an additional means of diagnosis in certain cases in which it is difficult to determine with sufficient accuracy the

character of the tumor, or the presence and extent of peritoneal attachments. The diagnosis of adhesions is at all times difficult, and is commonly but little more than conjectural; the introduction of a trochar in doubtful cases, in order to lessen the distension of the abdominal walls, may therefore be received as a method of greatly facilitating an examination, and furnishing new and important data for arriving at a correct opinion. During the first two or three weeks after the last time of tapping it was by no means difficult to grasp the then flaccid abdominal walls, and cause them to glide with freedom over the surface of the ovarian mass; whilst at a later period the distension of the abdomen rendered such examination difficult and uncertain.

[Dr. Bird attributes his success to three circumstances. 1st, To the precaution of keeping up a proper temperature in the room. 2ndly, To the after treatment which partook more of a dietetic than medical character.]

Thirdly, To the form of operation adopted, which I believe to be that presenting all the chances of recovery the extirpation of the ovarium is calculated to afford. Hitherto I have but described the steps of the operation, and I would now venture to make a single remark on the cause which induced me apparently to profit so little by the recorded cases of Dr. Clay and Mr. Walne. It was, however, from their careful perusal, that I was lead to arrive at a somewhat different conclusion from that expressed by those gentlemen. The cases of Dr. Clay, and still more his useful practical observations, have sufficiently demonstrated the amount of danger which attends the attempt to perform extraction through a very small opening: the truth of which I saw exemplified in a case that occurred some years ago, in which the failure of the operation and the death of the patient (for failure in these cases seems to amount to death,) were undoubtedly to be attributed to the smallness of the abdominal incision; a secondary cyst of inconsiderable size having formed the obstacle, and which could readily have been removed by a somewhat more capacious opening.

Whilst thus according in the disadvantages said to attach to the small abdominal incision, I cannot but believe that important objections apply with equal justice to the very large section, the chief of which undoubtedly is the question of necessity. Is an incision from pubes to ensiform cartilage, in cases in which the ovarian tumour is wholly or in part fluid, really required? There can, I conceive, be no valid objection to evacuating the liquid contents partially or entirely, and thus causing so great a reduction of bulk as to allow of the removal of the ovarium through an opening of less size than that constituting the *major* operation; for if an incision be made sufficiently large to admit of the cyst rising from out of the abdominal cavity without any forcible traction—if it also be sufficiently large to allow of the introduction

of the hand of the operator into the abdomen, and thus enable him to apply with facility the necessary ligatures, or remove any abnormal attachments to the pelvic viscera—every end is answered, every indication fulfilled, and the making a large peritoneal section can confer no further benefit to the patient, unless the removal of an unpunctured cyst can be deemed such. It may be urged that a large incision into the peritoneum is less likely to be followed by inflammation than a smaller one, and this I am by no means disposed to deny; but were it proved, it would still be very questionable whether an operator would be justified in making an unnecessary large incision solely with a view of enhancing the probabilities of ultimate success. I would not, however, dissent from the employment of a larger incision in cases in which the partially solid state of the tumor might prevent its sufficient reduction by puncture, but from the cases I have seen I am inclined to believe that it rarely happens that an ovarian tumor will not be found to be in part fluid, and therefore capable of being lessened in size by the introduction of the trochar. Many important points remain to be determined with regard to the relative value of the operation, and the number of the cases yet recorded have not been sufficient to decide whether the chances of success exceed the chances of the occurrence of disease in the remaining organ. The observations of Mr. B. Phillips, tend to turn the scale of probabilities against the ultimate safety of the patient, and to show that disease in a less developed form commonly exists in the opposite ovary.

Medical Gazette, Aug. 18, 1843, *p.* 732.

[In the British and Foreign Medical Review for October last, there is an article on this subject, which will tend in a great measure to correct any of the high expectations which either we or our readers might have entertained. Of course, in the opinion which we gave in our last volume, we were guided, in a great measure, by the favourable results of the different operations which were given by Dr. Clay. Since that time, however, an able writer in Dr. Forbes' Review has investigated the different cases which were referred to by Dr. Clay, and we will endeavour briefly to lay the results of his researches before our readers. It will be remembered that Dr. Clay's statistical account of cases in which dropsical or enlarged ovaria were extirpated by a large incision was as follows:—L'Aumonier 1; Smith 1; Macdonald 3; Lizars 3; Clay 3; Walne 1; and that out of these only one was unsuccessful. The reviewer then contrasts the favourable appearance of this table of cases with another, in which he enumerates 19 cases in which the ovaria were actually removed, and out of which six died. He then mentions other eight cases, where the abdomen was opened and no diseased ovaria found, or where the difficulties were insurmountable. Out of these 8 cases 3 died; so that it appears that instead of the operation being successful in 12

out of 13 cases, 9 out of 27 persons, or exactly 1 in 3 of those who submitted to it died, and that 5 of the 18 survivors had hazarded their lives to no purpose. The reviewer then examines the successful cases of Dr. Clay, and shows "that the laudatory terms in which he speaks of this operation are by no means borne out by fact." He then goes on to say—]

All must, we think, agree with us in the opinion that the mere announcement that these thirteen persons recovered from the operation would by no means suffice to enable us to estimate it aright. The sufferings endured during its performance, the pains of a protracted convalescence, and the imminent danger in which life was placed in some instances, ought all to be taken into account. The sufferings and the danger too, in these cases, were neither few nor small. Twice (in Mr. Lizars' patient and in one of those operated on by Dr. Macdowell) the patient was exposed to great danger from hemorrhage. Dr. Ritter's patient nearly sank from the shock of the operation, and the violent fever which ensued well-nigh cost her her life. In Dr. Clay's first case, in Dr. A. G. Smith's case, and in that recorded by Mr. Walne, the symptoms were at one time of a very serious nature, though not such as to betoken immediate danger. We are not furnished with details of Dr. Clay's third successful case for the first three days after the operation, and unfortunately we do not know the history of the person whose case is related by Dr. Quittenbaum. In five cases (two of Dr. Macdowell's, one of Dr. Clay's, Dr. Rogers's, and Dr. Chrysmar's) the patients went on favourably from the very beginning; but in Macdowell's and Rogers's cases there is a most blameworthy deficiency of information on all points relating to the patient's progress. In six out of the thirteen cases then, there is evidence of the life of the patient having been placed in some degree of jeopardy, while in three only of those in which the patients are alleged to have recovered without any bad symptom, are we furnished with such details as we have a right to require? Moreover, Dr. Macdowell's first case, that of Dr. Chrysmar and of Dr. A. G. Smith, are the only ones in which a length of time had passed since the operation, sufficient to test the permanence of the cure, or to show that the other ovary did not become the subject of disease. In Mr. Lizars' patient it is expressly stated that at the time of the operation both ovaries were diseased though only one was extirpated, and we have Dieffenbach's authority for the opinion that this would be the case in many instances. The appearance of the solid part of the ovary in the two successful cases by Dr. Clay, in which he has described the tumour, would lead to the apprehension that the disease in both instances partook of a malignant character, and that consequently no lasting benefit will result from the operation.

There are objections, however, to the operations far more conclusive than any which can be deduced from the inadequate nature of the testimony in its favour. Not only did six of the persons,

whose ovaries were extirpated, die from the effects of the operation, but in eight instances, after the abdominal cavity had been laid open, the removal of the tumour was found impracticable, and the lives of three of these patients were sacrificed to the fruitless and ill-judged interference of the surgeon.

[The reviewer then notices these melancholy cases in detail, after which he says—]

It was our intention to have examined the comparative merits of other operative proceedings which have been at different times adopted for the cure of ovarian dropsy, but we have already exceeded our limits. The erroneous statements, however, by which Dr. Clay endeavours to bring the operation practised by Mr. Jeaffreson into disrepute are so remarkable that we cannot pass them by unnoticed. Not content with omitting all mention of the successful cases recorded by Mr. Gorham in the Lancet for October 1839, he asserts that Dr. Dohlhoff operated on three persons by the small incision, and that of these three two died, and in the third who recovered no tumour was found. Now we deny that in any of these three cases the operation was at all similar to that practised by Mr. Jeaffreson. In the first patient the incision was indeed originally only two inches long, and the tumour was punctured by a trocar. Its contents were found too viscid to flow through the canula; the incision was then very *considerably enlarged*, and the tumour laid open sufficiently for the operator to bale out its contents with a cup. After its bulk had been thus reduced, the tumour was removed. This patient died sixteen hours after the operation, and peritonitis, with effusion, were found on a post mortem examination.

The incision in the second case was sufficiently large for the bystanders to perceive that the vessels of the omentum were morbidly dilated, that small white tumours of the size of a bean covered the surface both of the omentum and the peritoneum lining the abdominal walls. It likewise allowed them to see that the tumour had very intimate adhesions to deep-seated organs, on which account the attempt to extirpate it was discontinued, but eight hours afterwards the patient died.

In the third case we are informed that after the abdominal cavity had been laid open, and the hand had been introduced into it in search of a tumour, none could be found; [nach eröffneter Unterleibshöhle und nach dem Eingehen mit der Hand in dieselbe fand sich keine Spur einer Geschwulstvor.] This person continued in a dangerous condition for some days, but ultimately recovered.

Now, on what principle these cases are classed among those operated on in the method practised by Mr. Jeaffreson we are perfectly at a loss to conceive; for to our minds they far more closely resemble cases operated on by the large incision.

It is not, however, our object to advocate the operation by the small incision, for our estimate of any such proceeding coincides

exactly with that expressed by the late Dr. Hamilton, in his Practical Observations on Midwifery. We have merely sought to exhibit the real amount of danger which attends *one* of the operations that have been practised for the cure of ovarian dropsy, *one* which its advocate describes as yielding results far more favourable than those of amputation. Our readers may judge for themselves how far this statement is consonant with truth—to our thinking the facts need no comment. We earnestly hope that they will prevent the younger members of the profession from being dazzled by the *alleged* success of an operation, which though it may excite the astonishment of the vulgar, calls neither for the knowledge of the anatomist nor the skill of the surgeon.

Brit. and For. Med. Rev., Oct 1843, *p.* 396.

[In the last number (No. 2) of Guy's Hospital Reports, Mr. Key reports a case of extirpation of an ovarian cyst The operation was performed in the usual masterly style of Mr. Key, but the result was unfavourable. Mr. Key ends his report as follows—]

In considering the causes that occasioned the unfavourable termination of this case, the age and temperament of the patient will be looked upon as the principal circumstances militating against a probability of success. The majority of recorded successful cases have been women past the period of child-bearing, in whom the sexual organs have lost their functional sensibility. This inactive condition of the organs must doubtless be a circumstance favourable to success; as, on the other hand, an extremely active and sensitive state of the uterus, in young persons, would increase the impression upon the nervous system occasioned by such an operation. The danger, however, lies not so much in the degree of nervous depression or nervous excitement, as in the extent, degree, and nature of the inflammation that follows. It does not appear, from the results of these operations, that much if any depression has been immediately caused by the large peritoneal incision. Hysteric excitement or disturbance of the heart's action have not been remarkable; nor has there been any train of symptoms that could be specially referred to disturbed uterine functions. It seems rather to be a proneness to inflammation, almost irrespective of the condition of the sexual organs, that forms the great source of danger. I am not disposed to assert the entire independence of inflammatory action and nervous disturbance; as the latter unquestionably regulates the course and nature of the inflammation, though not giving rise to it, nor perhaps increasing its intensity. And in selecting cases for the operation, this distinction is not without its practical bearing; otherwise, all persons beyond the middle period of life would be excluded from it. The fitness of the patient for the operation should, I think, be determined, not alone by the active or dormant state of the sexual organs, but by the same rules as guide us in other diseases re-

quiring operation. It is the disposition to unhealthy inflammation that disqualifies a subject for bearing a severe operation. This tendency, if combined with feebleness of constitution, is looked upon as likely to interfere with the due process of reparation. Youth is not the period at which such tendency exists in greatest force; and the process of resisting disease is certainly not less in the young than in elderly women. *Cæteris paribus*, if the constitution of the young ovarian patient be unaffected by the disease, her nervous system tranquil, and the arterial action free from inflammatory tendency, I cannot see any objection to submitting such to the operation. The unsuccessful case of a young patient, published some time since by Mr. Phillips, in which the opened cyst was removed by the smaller incision, hardly bears upon the question. The issue of the present case does not dispose me hastily to pronounce the young to be unfitted for the operation; and should such prove to be the case, it must be by larger experience than we have at present.

Guy's Hospital Reports, No 2, *New Series, Oct.* 1843, *p.* 486.

66.—ON NECROSIS.

By James Adair Lawrie, M.D., Professor of Surgery, Anderson's University, Glasgow, &c.

In the treatment of extensive necrosis, two practical difficulties present themselves;—first, in supporting the constitution, and preventing hectic; and, second, in the very tedious process of production of new bone, and the ultimate cure, by discharge of the dead portion. The latter is known to consist in the deposit of new bone, around the old and dead bone, encasing it, and subjecting it to the very doubtful process of absorption, or of separation, and escape, through the cloacæ in the new bone, and the ulcers in the soft parts. This process is so tedious as sometimes to occupy a lifetime, or to subject the patient to the very painful und uncertain operation of removing the dead bone, or even amputating the limb. So far as I know, no efficient means of meeting and overcoming these difficulties have yet been proposed. The two cases which I have related, show that in certain cases, and these the most severe, they may be obviated by the early removal of the dead bone, before it is encased or entangled in new bone. In neither of the cases was any incision required; in the first, on account of the extensive exposure of the bone; and, in the second, from its being broken, and its extremity projecting through an opening in the soft parts. We cannot, however, expect to find all our cases so favourably circumstanced. In some, the first steps will consist in exposure of the dead bone, by extensive incisions; and

the second, in removing the dead bone by the saw and forceps. I have, at present, a case of necrosis of the tibia, under treatment, in which these steps will require to be put in practice.* The advantages of the operation are too numerous and obvious to require to be detailed.

The physiological inferences which may be drawn from these cases, to my mind decide the question, as to the source from which bones are repaired, or regenerated after necrosis. The opinions on this subject were long divided between the periosteum and soft parts on the one hand, and the bone on the other. That bone, or at all events calcareous matter, may be deposited in almost any organ or membrane of the body, is too well ascertained to make it improbable, that the same substance may be formed by the soft parts in the neighbourhood of bone, or by the periosteum, whose peculiar functions are to envelope and invigorate bone. That periosteum can form bone I well know, having seen bone deposited on both its surfaces, and into its substance, in considerable quantity. But it is one thing to admit that the vessels of periosteum may secrete or deposit spiculæ of bone, and another, to subscribe to the doctrine, that this membrane is the efficient agent in the production of the mass of ossific matter, necessary for the reunion of broken bones, or the reproduction of an entire bone with the exception of the epiphysis. Both of these processes I have long been convinced are performed by bone, and can only be effected through its agency. It is not my intention to speak of the union of fractures,—that subject not being at present under consideration. I shall therefore limit myself to the second,—a reproduction of new bone after necrosis; and, in the first place, it is worthy of remark, that those bones which have epiphyses are much more certainly and rapidly regenerated after necrosis, than the flat bones, and those which have no epiphysis. If a large portion of a cranial bone die and separate, it is frequently never restored; if it be renewed, it is by membrane in the first instance, and ultimately by the very slow transformation of that membrane into a thin plate of bone. I am not aware that the bones of the face, excepting of course the lower jaw, are ever restored. On the other hand, the facility with which the cylindrical bones pour out osseous matter is well known. In the next place, if the epiphyses be removed with the body of the bone, no new bone will be formed. This is most frequently illustrated, in the lower jaw, and phalanges of the fingers. In the remarkable case published by Mr. Perry, (Med.-Chir. Trans. xxi. p. 90,) of necrosis of the lower jaw, while the epiphyses preserved their vitality, a powerful effort was made to restore the dead part; but after the epiphyses died, the new bone died also,—the whole came away, and no further attempt to renew the bone appeared. Lastly, in

* Since this paper was written the case has been operated on; and with complete success.

the cases above related, and I believe that attentive observation will confirm the remark in all similar instances, the new bone was formed by the epiphyses. Where the old bone is extensively exposed, osseous matter is poured out by both epiphyses behind the dead bone, or behind that plane of the bone which is least exposed, and farthest from the surface; the new bone appears in the form of shoots or processes, which advance from both epiphyses, until they meet and coalesce. The deposition is continued from behind forward, until the integrity of the new bone is restored, and the old bone enveloped in it. It is in this way, and not by the deposit of bone on the surface of the periosteum, that the old bone is encased in new.

A question, at once of physiological and practical importance, here suggests itself, What part does the dead bone play in this process? Does it act as a stimulant to the deposit of ossific matter? Does it serve as a mould for the new bone? If it were removed, would the process be arrested? In all of these questions I would reply in the negative. I do not think that the presence of dead bone is more required to assist in any of the processes involved in the above queries, than the presence of a slough of the softer parts in the generation of new flexible tissues. When the entire thickness of a cylindrical bone dies, the first step towards regeneration consists in an attempt to get rid of the dead part, by the absorbents forming a groove round the dead portion, gradually cutting it through, and isolating it from the living. The next step, to a certain extent cotemporaneous with the first, is the deposit of new osseous matter all around this groove, springing from the bone; the last is the surrounding of the old bone with new, in the manner already explained. The new bone begins to form before the old has separated, and continues after the connection between the two has been quite dissolved. Currie's case appears to me to entitle us to answer the second and third queries in the negative; the old bone was removed long before the new was deposited; the process so far from being thereby arrested, was greatly accelerated, and the form of the new bone was much more symmetrical than if it had been slowly deposited around the old as a mould. It may be asked, if this view of the matter be correct, why is it not thrown off as is a slough of cellular tissue? I believe that the impediments to its escape are mechanical, and not physiological; the soft parts which cover it, the irregular line in which it dies, and the vitality of the cancellous structure next to the epiphysis, extending for some distance within the dead outer case, render its escape impossible, long after its presence has become a source of retarding, it may be, of fatal, irritation.

How soon may the dead bone be removed by operation? The answer appears to be:—As soon as the inflammatory stage has passed, suppuration been fairly established, and the constitutional symptoms will permit. The nature of the operation to be

performed must depend on the extent of the disease. When the entire thickness is involved, the necrosed part should be exposed and a portion cut out, as in Currie's case, and occasional attempts made to extract the portions connected with the epiphyses. There is little risk in hurrying them away too soon, provided violence is not used in the attempts; they will become loose when the natural process of separation is complete, and then comparatively little force will be required for their extraction. When the surface of a bone only is exposed and necrosed, it seldom happens that the dead part is encased in a new bone. It generally scales off, and finds its way through the ulcer in the soft part, or through an abscess. Should the dead portion be extensive, and the position of the bone admit of it, it would save time to lay open the sinuses, expose the bone, and remove with a sharp chisel all the dead portion.

[These opinions of Dr. Lawrie are supported by four interesting cases. In the first case, that of Jno. Gray, aged 13, the whole of the left superior maxilla was removed. After a severe attack of typhus, a slough showed itself at the left angle of the mouth, which gradually extended to as far back as the masseter, and included the gum and mucous membrane covering the maxillary bone, which was throughout necrosed. After the patient's health had been in some measure restored, Dr. Lawrie repeatedly laid hold of the dead bone with dressing forceps, and ultimately brought the whole portion away. The lower jaw became immoveable, but this was in some measure remedied by division of the left masseter muscle, and the large opening in the cheek was filled up by making the edges raw and applying a portion of skin from the contiguous surface. The second case, John M'Rae, aged 10, was that of *necrosis of the shaft of the left tibia*, reaching nearly from epiphyses to epiphysis, the consequence of an acute attack of periostitis which commenced seven weeks since. Amputation above the knee was resorted to; and on examining the shaft of the bone the case was quite dead from epiphysis to epiphysis, and the epiphyses at the knee and ankle had sent out processes on the posterior and external aspects of the bone about three-and-a-half inches in length, which, though still two inches apart, were obviously rapidly approaching each other. The periosteum was separated all around from the dead shaft, and, with the exception of a few deposits of bone from a few vessels which passed from the living cancelli to the surface of the periosteum, there was no appearance of formation of bone either on the surface of the periosteum, or on that of the dead bone. Now although the unaided powers of nature could not have remedied this case, Dr. Lawrie thought that in a future case he should be warranted in attempting a cure by removing the whole dead porton of bone instead of resorting to amputation. This was successfully performed in the third and next case which he relates, in which the whole tibia except the epiphysis, was removed.]

Three months ago, this boy, William Ewing, aged 15, sprained his right leg, and induced extensive periostitis of the tibia. There is an opening six inches long, equi-distant from the knee and ankle, exposing the greater portion of the tibia on its anterior aspect. The probe, from any point of this large opening, can be passed round the bone. There is a good deal of thin discharge from the sore, the edges of which are raw, tender, and flabby, and towards its lower extremity have a firm gelatinous appearance. The general health is pretty good.

February 21.—Soon after admission, a chain saw was passed under the necrosed bone, near its centre, and the bone sawn from within outwards. The saw was a second time passed under the bone an inch nearer the ankle, and the intervening portion of bone cut and removed; the exposed ends were seized with dressing forceps, and endeavoured to be extracted, but without success. Similar attempts were repeated every second day for six or eight days, and both portions were removed. The operations gave very little pain, and were followed by very slight hæmorrhage. The portions of bone removed were $7\frac{3}{4}$ inches in length, and included the entire thickness of the bone, which was irregularly notched at both extremities; there was no deposit of bone on, or in the neighbourhood of, the exposed periosteum, which was changed from its natural appearance, and covered with flabby gelatinous granulations. The sore is rapidly contracting, and his general health improving. As yet there is no discoverable regeneration of bone. Sent to the country.

October 2, 1841.—I have frequently seen this boy since he left the hospital. How soon the tibia was regenerated I cannot say, but he was seen by my colleagues in the hospital in November 1840—about ten months after the operation—and all of them were satisfied that the bone was then completely renovated. He called upon me to-day, when I took the following note:—"The integrity of the tibia is restored, by bone as firm, and nearly as large as that of the opposite limb. The leg is very slightly bent outwards a little below the knee. Two sinuous openings still exist, one a little below, and the other a little above, the corresponding epiphysis of the tibia, at the bottom of which the probe discovers a small extent of diseased bone. He began to walk on crutches a few weeks after he left the Infirmary, and for some months has walked assisted by a staff. He now walks well, with a very slight halt, and is able to undergo a great deal of fatigue.

[In the fourth case, that of Maggie Moore, aged six, the shaft of the humerus was necrosed, and was removed in somewhat a similar manner and with similar success.]

London and Edin. Monthly Journal of Med. Science, August, 1843, *p.* 679—685.

67.—CONTRIBUTIONS TO THE PATHOLOGY AND TREATMENT OF DISEASES OF THE UTERUS.

By James Y. Simpson, M.D., Professor of Midwifery in the University of Edinburgh, &c. &c

[We have not space to notice the whole of Dr. Simpson's valuable contributions respecting uterine diagnosis, and must content ourselves by simply stating some of his several propositions, reserving what space we can afford to his remarks on the physical examination of the womb, and his *Uterine Sound, or Bougie.*]

First Proposition.—The general and local functional symptoms of disease of the uterus, are such as enable us to localize, without enabling us to specialize, the exact existing affection of the organ.

Second Proposition.—In almost all instances of diseases of the uterus, it is only by the physical examination of the organ itself, that we can distinguish the precise nature of the existing affection, and fix its character, extent, &c.

Third Proposition.—The physical examination, as hitherto practised, seldom enables us to ascertain accurately, the organic condition of more than the cervix, and lower part of the body of the uterus.

If the uterus be large, and the woman of a spare and lax habit, we may indeed be able to feel the fundus of the organ through the walls of the abdomen, by the hand pressed in above the pubes. It generally, however, lies so low in the pelvis, and usually moves away so readily under the touch and pressure of the fingers, that, even in such persons, this means of examination is of no great avail. In all persons of an opposite habit, and in most cases where the uterus is misplaced without enlargement, the hypogastric examination is of little or no use whatever.

By examination per vaginam with the finger, we can only, (except when the uterus is prolapsed,) feel the cervix, and the parts resting on the roof of the vagina. Hence, diseased states of the cervix having been far more easily ascertained than diseased states of the body and fundus of the organ, have, probably, been very much over-rated both in frequency and importance, at least since the speculum has come into more general use. In regard to the parts that are felt through the roof of the vagina, the touch alone does not, in many instances, give us information at all sufficiently satisfactory and decisive. We can, no doubt, when the tumour is large, often ascertain with considerable accuracy its size and form, by combining the vaginal examination with the aid derived from examination by the rectum, and above the pubes. But we are still, in many cases, left entirely in the dark as to whether the existing tumour is an enlargement of the whole mass of the uterus, or a distension of its cavity, or a morbid growth; and, if the latter, whether the growth is seated in the uterus itself, or in one of

the ovaries or other neighbouring parts. If the tumour is small, and cannot be felt above the brim, we then have it not even in our power to ascertain its size and form, as we can examine it only on one side, namely, on that next the vagina. Under these circumstances we are unable to tell whether it arises from a new morbid structure attached to the uterine parietes, or from a simple displacement, or flexion of the fundus of the uterus itself.

To meet these, and other difficulties in uterine diagnosis, I have for some time past been in the habit of using a metallic uterine sound or bougie of nearly the size and shape of a small male catheter, which, when introduced, as it can easily be done, into the interior of the uterus, and manipulated there in different ways, has proved to me of great service in rendering the diagnosis of the diseases in question, and more particularly those of the *fundus*, *body*, and *cavity* of the organ, (parts usually considered beyond the reach of examination) much more accurate and precise than can be effected by any other means with which I am acquainted. I am induced to bring this means before the notice of the profession, under the strong hope that the instrument will be found of equal service in the hands of others; and the results which have been obtained by it seem already sufficient to enable us to place, among the generalities of uterine diagnosis, the following as a

Fourth Proposition.—It is possible, by the use of a uterine sound or bougie introduced into the uterine cavity, to ascertain the exact position and direction of the body and fundus of the organ—to bring these higher parts of the uterus, in most instances, within the reach of tactile examination, and to ascertain various important circumstances regarding the os, cavity, lining membrane, and walls of the viscus.

London and Edin. Mon. Journal of Med. Science, June, 1843, *p.* 550—556.

Description of the Uterine Sound.—The instrument which I employ is somewhat similar to a small male catheter. It is, moreover, provided, like the common male sound, with a flat handle, to facilitate its manipulation, and terminates at its other extremity in a rounded knob or bulb, to prevent injury to the uterine textures. The intervening stem tapers gradually from the handle to the knob, the thickest part being nearly one-fifth of an inch in diameter, (equal to the size of a catheter No. 8,) and the thinnest part about one-tenth of an inch, (or equal to a catheter No. 3.) The greater thickness of the attached extremity is necessary to give that portion of the instrument the requisite degree of strength and resistance; it is more slender towards its other extremity, to allow of its easily entering into, and being moved in the orifice and canal of the uterus. The terminating bulb is about one-eighth of an inch in diameter. The stem is about nine inches in length, and graduated so as to render its employment, and some of its indications with regard to the measurement of the uterus, more precise. Different modes may be had recourse to in marking it,

but the marks, whatever they may be, must be such that they can be easily felt with the finger while the instrument is within the vagina. For this purpose they must be placed on the convex or posterior surface of the instrument, the surface, namely, with which the directing finger is in contact. The mode of graduation adopted in the instrument I have myself used is as follows. At two inches and a half from the extremities of the instrument, (this measurement being the usual length of the uterine cavity,) there is placed a slight elevation or knob, which, in the employment of the bougie, at once serves to show that it is introduced to the full extent into the interior of the organ, and at the same time forms a fixed or standard point from which the instrument may be farther graduated towards either of its two extremities. This farther graduation is marked by shallow grooves, which may be placed at the distance of either half an inch or an inch from each other, and, by their assistance, it becomes an easy matter to measure the exact length of the uterine cavity, when either it is diminished, or, as much more frequently happens, when it is prolonged to different degrees beyond its usual dimensions. The alternate groove may be double, to facilitate the measurement by the finger. The form of curvature at the extremity of the instrument is nearly that of a common catheter, and like it, begins about three or four inches from its point; but the degree and extent of this curvature require to be varied according to the necessities of individual cases, and according to the indications which it is wished to bring out. Hence the stem of the bougie requires to be formed of a metal that admits of being pretty freely and frequently bent without the risk of fracture, and at the same time is capable of adequately maintaining any form that may be temporarily given to it. These objects are fully attained when the stem is made of solid silver, but probably some composition of the inferior metals may also be found to have the necessary combination of pliability and strength. The handle of the bougie is made of wood or ivory, is about three inches long, three-fourths of an inch at its broadest part, and rather more than a quarter of an inch in thickness. The posterior surface of it is smooth, whilst its anterior surface, or that corresponding to the concave aspect of the bougie, is roughened, in order to make the operator constantly aware of the direction of the point of the instrument when it is hid in the uterine cavity,—a circumstance which we shall afterwards see to be of great importance in reference to someof its diagnostic uses.

Mode of Introduction.—In introducing the bougie or sound into the uterine cavity, the patient may be placed either on her back or left side. If on her back, the fore-finger of the right hand is introduced into the vagina, and its extremity brought in contact with the indentation formed in the cervix uteri by the os tincæ, so as to act as a guide to the point of the instrument. The instrument itself is held in the left hand, and its point slipped along the pal-

mar surface of the finger in the vagina, and directed by it into the uterine orifice. If the patient is placed on her side, she must lie with her body directly across the bed,—a position which facilitates greatly the manipulations required both for common tactile examination, and for examination by the sound and speculum. In this case, the fore-finger of the left hand is used as a guide to the os uteri, and the instrument is held in and directed by the right. In some instances where the parts are very lax, and the cervix uteri in any way displaced, the introduction of the bougie is facilitated by passing both the fore and middle fingers into the vagina, fixing the cervix with them in the axis of the passages, and gliding the instrument along the groove between the two up to the os. In whichever of these ways the sound is guided up to and passed within the os uteri, it generally afterwards glides easily, under a slight propulsive force, along the canal of the cervix and body, till (as shown by the elevated mark already alluded to as placed on the stem,) its extremity has passed onward to the fundus of the organ. Sometimes the extremity of the instrument is slightly obstructed about an inch or less within the os tincæ, by the natural contraction existing there between the cavity of the cervix and cavity of the body. This obstacle is easily overcome by a little additional impulse, or, if that fail, by slightly retracting and altering the direction of the point of the sound. The direction which the instrument should naturally follow in passing along the uterine canal, must always be held in view. In the normal condition of the parts, the uterus and vagina meet at a considerable angle, the former passing upwards and at the same time considerably forwards, and varying somewhat its inclination with the varying degrees of distension of the bladder and rectum. In using the bougie, therefore, supposing the organ to be in its natural position, its concavity should be directed forwards towards the walls of the abdomen; or, in other words, it should be passed in the same direction as in most other manipulations in this part of the body, namely, in the line of the axis of the brim of the pelvis.

The degree of uneasiness felt by the patient during the passage of the instrument, is in general very trifling, and not more, if so much as is felt on passing the catheter along the urethra of the female, and certainly not by any means nearly so great as in using the sound or bougie in the male. In a few cases, I have seen it, like the passing of the sound in the male, produce a feeling of sickness and nausea. In the healthy state, however, of the organ, the lining membrane of the uterus does not in fact appear to be more sensitive than that of the vagina, so that the existence of any true and actual pain in making the examination with the bougie, is to be considered so far anormal, that it is generally, as we shall afterwards see, indicative of the existence of some morbid state or other of the part or parts with which the extremity of the instrument is at the time in contact.

In the average run of cases, the introduction of the sound into

the uterine cavity, is probably not more difficult to accomplish than the introduction of the catheter into the bladder of the female. The os uteri is, in fact, usually much more easily and certainly detected by the finger, than the orifice of the urethra; and generally the one and the other instrument passes readily along its appropriate canal after it has once entered it. If it is otherwise, the very difficulty may be in itself important, as marking the existence of some anormal and probably diseased state. It is almost unnecessary to add, that the power of passing either instrument with perfect facility and certainty is only to be gained by a little perseverance in the practical employment of them.

The manner in which the instrument should be manipulated, after it is fully introduced into the uterine cavity, varies according to the object or objects which we wish to ascertain. The mode of using it with these views, will be best explained, by now pointing out individually, and at some length, the different diagnostic indications which it is capable of fulfilling.

The uterine sound increases to a great degree our power of making a perfect and precise tactile examination of the fundus, body, and cervix of the uterus.

I have already stated, that the *body* and *fundus* of the uterus are so deeply included in the cavity of the pelvis, and at the same time are generally so mobile under the pressure of the fingers, whether applied to the organ from above or below, that it is difficult to ascertain any thing precise with regard to the condition of these parts, either by a common vaginal, or by a hypogastric examination.

The obstacles which thus so effectually oppose an accurate and complete tactile investigation of the surfaces and walls of the body and fundus of the uterus, may be in most cases, in a great measure, overcome by the aid of the uterine sound, if we employ it for the double purpose—*first*, of giving sufficient *resistance* to the organ for its exploration by the fingers; and, *secondly*, of altering the *position* of its parts so as to bring them each successively within the reach of tactile examination.

When the pliable and mobile uterus is held steady by the sound being placed in its cavity, and the central axis of the organ is for the time being, thus rendered, as it were, *firm* and *solid*,—the examination of its external surface, and of its walls, becomes a matter of far more certainty and accuracy than if we had the organ indefinitely yielding and receding before each slight touch of the fingers.

But besides thus rendering the organ fixed and resistant for our examination, the uterine sound will, as a diagnostic means, be found of still greater use and importance, by the control which its presence in the uterine cavity gives us over the *position* of the whole organ, and by its enabling us to alter at will the situation of the viscus to such a degree, that we can in succession bring within the range of a tactile investigation, different parts of its

external surface and parietes, that are generally considered to be entirely beyond our reach. In reference to this remark it must be specially kept in mind, that in the healthy state the uterus is so loosely fixed in its situation in the pelvic cavity, that its position is capable of being changed to a very considerable extent, without incommodity or injury, by such exterior influences as may naturally or accidentally act upon it. Its position is so far constantly changed by the varying states of distension of the bladder and rectum. Under voluntary efforts of straining, it can in general be readily pushed down half an inch or an inch in the cavity of the vagina. It may be drawn down by instruments till the cervix reach the external parts themselves, or even protrude beyond them—a circumstance which facilitates immensely the operation of excision of this part of the organ. In consequence of the same anatomical peculiarity, we are able, through the use of the uterine bougie, to move the organ upwards, forwards, &c., to such degrees as are requisite for a complete hypogastric examination, without in general causing any marked inconvenience or pain to the patient.

If, after the bougie is introduced into the uterine cavity, we carry the handle backwards towards the perineum, the upper extremity of the instrument,—and consequently the fundus uteri placed upon that extremity,—will be proportionally moved forwards into the hypogastric region. One hand placed above the pubes will now feel the fundus uteri with the central and thinnest part only of the abdominal parietes intervening between the fingers and the surface of the uterus. Provided the woman be not of a full habit, and the abdominal muscles sufficiently relaxed by position, we can now pretty accurately examine with the hand placed on the hypogastric region, the state of the uterus as it is held forwards on the end of the bougie, and we may always make ourselves still more certain of its condition by retracting and otherwise moving the handle of the instrument so as to bring the different parts of the superior, and anterior surfaces of the uterine tumour under the touch of the fingers. By a slight turn of the instrument to either side, the lateral surfaces of the upper part of the viscus may, in the same way, be brought under our tactile examination; and in spare subjects, I have occasionally found it possible, when the fundus was pushed against the abdominal parietes, to extend the manual examination to some distance along the posterior wall of the organ.

In those cases where this cannot be effected, the sound still enables us to make a more perfect tactile examination of this—the posterior, part of the uterus, than we could otherwise effect, by giving us the power of temporarily depressing and reflecting its posterior wall, so that it may be felt by a rectal examination. The vaginal examination of the lower part of its anterior surface may be in general rendered more complete, by a similar aid, from the instrument.

In these different steps of examination, the degree and accuracy of the information obtained is varied in different individuals by the differences which exist in the thickness of the tissues placed between the uterine surface and the fingers; but in most instances the presence of any marked irregularity in the uterine structures—such as the presence of one or more small fibrous tumours,—their hypertrophic thickness, &c., may be readily made out—and, under still more favourable circumstances, the exact physical conditions of the organ in relation to its volume and dimensions, the morbid tenderness of individual parts of it, &c., may be precisely determined.

When we employ the sound for the purposes alluded to in the preceding sentences, namely, for enabling us to make hypogastric examinations of the fundus and body of the uterus, the instrument, before its introduction, should have its extremity bent upon its stem at as nearly a right angle as the conformation of the genital canals admit, and, after being introduced, its handle should be well retracted towards the perineum. By attending to these circumstances, the fundus and body of the uterus will be more easily and fully turned forwards, and our examination of them very much facilitated. The same object will also be much promoted by retaining the directing finger at the cervix during the course of the examination, both to steady the instrument and to serve as a fulcrum to it. In that case the handle may be retracted or pushed backwards to any required degree by the forearm, while the other hand is employed in the hypogastric examination.

The preceding remarks apply to the examination of the fundus and body of the uterus, parts which—unless when much enlarged, or the patient very thin—are generally looked upon as beyond reach of any physical diagnosis.

The physical states and relations of the *cervix uteri* are generally ascertainable by the finger alone. Still, in various morbid conditions of the cervix, our tactile examination of the organ may be much promoted by the assistance of the bougie introduced into the uterine cavity. For instance, in chronic enlargement, cauliflower excrescence, and other organic diseases of that part, it is sometimes a matter of moment, both as regards our prognosis and our treatment, to ascertain if the existing diseased state stretches upwards so far as to involve or not the lower portion of the body of the uterus. In several such cases, I have found much assistance in determining this point by gently depressing the uterus by the bougie introduced into it, and having the power thus of examining the organ, immediately above the cervix, by compressing the structures of that part between a finger or two in the vagina, and the resistant sound placed in the uterine cavity, and consequently in the very axis of the viscus. In this way, each point in the circumference of this portion of the organ may be successively examined.

These observations apply generally to such indications as can be

made out through the use of the bougie, when the uterus still retains that freedom of motion which we have seen it to possess, when it is itself in a healthy condition, and when there are no obstructions or impediments to its mobility in the surrounding parts. But there are cases where, from the organ having become more or less fixed and immobile, no advantage can be taken of those facilities which the power of partially displacing it in general allows us. In these instances, the very circumstance, however, of the mobility of the organ being lost, and still more the degree and extent of its immobility, often materially assists in pointing out the true nature of the affection that is present. Thus in scirrhus of the cervix, the early immobility of that part, in consequence of the morbid degeneration invading the contiguous tissues from almost the very commencement of the disease, is often one of the first and best characteristics of that dreaded malady. In this instance, the fixed state of the cervix of the organ is detected by the direct application of the finger. In other states of disease, the cervix remaining comparatively free and unaffected, the body and fundus may be immobile from various pathological causes, as from morbid adhesions, the consequence of inflammation of its peritoneal surface, from the pressure of tumours or abscesses, &c. Or, again, both cervix and fundus may be immobile at the same time, from general carcinoma of the organ, &c. In all these cases the immobility of the *body* and *fundus*, its degree, extent, and seat, can only be discovered by the bougie; and its use, along with other considerations, may further lead us to detect the special pathological state that may be the cause of the morbid attachment or fixture of these parts of the organ.

[The previous introduction of the sound facilitates and simplifies the subsequent visual examination of the cervix uteri with the speculum. There is sometimes great difficulty in catching a good view through the speculum of some parts of the cervix uteri, as when the uterus is situated obliquely, or where the cervix is high up and displaced.]

After making such tactile examination as may be required with the sound, leave it in the uterine cavity, and using it as a general guide, slip the uterine extremity of the speculum, whether tubular or bladed, over its handle and along its stem, till the instrument be fully introduced. The upper or uterine extremity of the speculum is thus guided with almost unerring certainty along the stem of the sound, till the cervix uteri is touched and included in its opening. Further, if we still keep the sound in the uterus, we have in it a means of turning the cervix to one or other side at will, so as to give ourselves a complete view of the mucous membrane covering the whole vaginal surface of this part of the organ. This last step in the examination is much facilitated by first drawing aside the stem of the bougie into the cleft between the two blades of the speculum—provided we are using a double bladed instrument.

In making these remarks, I presuppose that the patient, during the employment of the sound and speculum, is placed upon the left side in bed, in the position already pointed out as most favourable for making a common tactile examination.

By the use of the uterine sound we may, in many instances of pelvic and hypogastric or abdominal tumours, ascertain the connection or non-connection of these tumours with the uterus;

[And thus our prognosis may be considerably facilitated, enabling us, for example, to distinguish ovarian dropsy from enlargement of the uterus, from the presence of a large mass of fibrous tumours in its walls. When an enlarged mass exists in the neighbourhood of the womb, it is often exceedingly difficult to determine whether the uterus or ovary, or both, are diseased, but the bougie entering, as it were, more or less directly, into the very structure of the morbid mass, when connected with the womb, the tumour and the instrument reciprocally move in exact correspondence, and thus we are enabled to ascertain the exact relative situation of the diseased body. On the other hand, when the tumour is not uterine, the bougie enables us to know the exact relative situation between it and the womb in one of the three following ways:—]

1. The uterus may be retained in its situation with the bougie, and then, by the assistance of the hand above the pubes, or by some fingers in the vagina, the tumour, if unattached to the uterine tissues, may be moved away from the fixed uterus.—2. The tumour being left in its situation, it may be possible to move away the uterus from it to such a degree as to show them to be unconnected:—or, 3. Instead of keeping the uterus fixed and moving the tumour,—or fixing the tumour and moving the uterus, both may be moved simultaneously, the uterus by the bougie, and the tumour by the hand or fingers, to opposite sides of the pelvis, to such an extent as to give still more conclusive evidence of the same fact.

[These means, however, can only be valuable in diagnosis when the womb and pelvic, or hypogastric tumour are neither organically adherent to each other, nor so closely wedged together, as to render them mutually immoveable.]

In one common set of cases, the knowledge of the exact situation of the uterine cavity, and hence of the uterus itself, in relation to the tumour that is present, even when both were immobile, has in repeated instances appeared to me especially important. The ovary normally lies behind the uterus, being attached to the *posterior* surface of the broad ligament. If, therefore, in a case of chronic tumour situated in the pelvis, the sound shows the tumour to lie on the *anterior* surface of the uterus; or in other words, if the uterine cavity runs up the posterior surface of the morbid mass, the disease may be considered as certainly not ovarian, and the further difficulties of the diagnosis will thus be so far very much simplified by way of exclusion. This remark particularly

applies to those cases in which the tumour, of whatever nature it may be, is still not so large as to have passed out of the pelvic cavity and become abdominal.

London and Edin. Monthly Jour. of Med. Science, Aug. 1843, *p.* 701—715.

[Dr. W. Cumming has published some interesting cases illustrative of the use of Dr. Simpson's instrument. The first was a case of retroflexion, in which the os uteri was found to be tilted very much forward under the pubes, and a firm tumour was felt between the vagina and rectum, which Dr. Simpson readily proved by means of his bougie to be the uterus itself.]

The uterus could be moved about at will; and according as it was moved from the posterior to the anterior region did the tumour appear or disappear. This was conclusive as to the tumour being either the fundus uteri, or one attached to it. By projecting the uterus anteriorly with the instrument, so as to make it come in contact with the parietes of the abdomen, the whole fundus was distinctly felt, its freedom from any attached tumour easily ascertained, and the blunt point of the bougie so accurately defined, as to satisfy us that that part of the womb preserved its normal thickness. No one who has not made use of this instrument can form any conception of the positive information afforded by it in such a case as that under relation. The nature of the disease being thus determined, the next object was to apply some means for retaining the uterus in its normal position. This was effected by the daily introduction of the uterine bougie, and its retention there by the patient for several hours. We were encouraged to adopt this plan by discovering, after one of our examinations with the bougie, that the fundus uteri did not retroflect for some time after the instrument was withdrawn. This plan was attempted and continued in operation for several days, but was so irksome to the patient, from the constrained position which she was required to maintain for several hours, and so injurious to the constitution from the weakness that confinement to bed necessarily infers, that it was abandoned, and in its place an utero-vaginal pessary substituted. It may be right to mention, that the bougie had not produced any good permanent effect. Generally, as soon as it was withdrawn, the uterus retroflected as before,—and, therefore, when the pessary was introduced, the uterus was in as unfavourable a state as when its displacement was first discovered. The uterine pessary was allowed to remain for five weeks. The relief from the downbearing and other uneasy symptoms, was almost immediate. Formerly she was almost incapacitated from taking any exertion in the erect position. Within a week she walked from two to three miles with the greatest ease, and was entirely free from that mental oppression and disquietude under which patients suffering from the various forms of uterine disease so frequently labour. She never experienced the slightest difficulty in voiding

urine or fæces,—and was, to use her own expression, "quite a different person" from what she had been. The instrument occasioned no pain, nor was any other consequence observed from its use than a more than usually profuse flow of the menses. When the instrument was withdrawn from the cavity of the uterus, neither Dr. Simpson nor myself could detect any trace of the tumour,—it had entirely disappeared. The uterus was still prolapsed, but the os uteri, though not precisely in its normal direction, was no longer tilted forwards. It occupied rather the middle of the vagina.

For some time after this the patient continued free from any uneasy symptoms. After a time, however, they returned *precisely in every respect as they were before*, somewhat, I must admit, to my discouragement, and I therefore concluded that the uterus had again become retroflected. So fully convinced was I of this that, *without examination*, I reported the case to Dr. Simpson and others as a failure, to my shame be it said. The symptoms, however, became so intolerable, and the patient's sense of the relief formerly experienced was so lively, that she again called on me for my opinion as to the propriety of renewing the use of the instrument. This led me to institute a new examination, when to my great astonishment I found the os uteri much in the same position I had left it when the pessary was previously withdrawn, and could discover not the slightest trace of a tumour in the recto-vaginal septum. There was anteriorly a fullness or bagginess of the vagina, apparently the result of relaxation, and there was also still prolapsus, but except these the finger could detect nothing else. I then introduced the bougie, and found it, after its point had passed the cervix and had reached the uterine cavity turn as it were involuntarily to the right iliac region. On pushing it, so as to cause a slight degree of pain, the patient fixed on the right iliac region as the seat of the pain. By rotating the instrument I could also rotate the uterus: but when allowed to take up its own position (as it were), it returned to this region as naturally and immediately as on the previous occasion it had returned to the recto-vaginal septum. From this it appeared that the tendency of the uterus to become retroflected had been so completely surmounted by the former use of the pessary, as to resist the effect of motions which, before its employment, would unquestionably have thrown it back into its abnormal position,—but that it was now in a position not cognisable by any of the common modes of examination, though thus productive of symptoms equally harrassing to the patient and perplexing to the practitioner. After repeating the experiment above referred to on two successive days, I introduced into the cavity of the uterus with very great difficulty, and after several unsuccessful efforts, another uterine pessary. This I did on the 22nd May. I saw the patient on the 23rd. She stated that during the afternoon of the previous day, she had felt a considerable degree of uneasiness, similar to

what she usually feels before the occasion of the menses. In every other respect she was infinitely more comfortable than she had been before the insertion of the instrument.

29th May. I saw the patient to-day. She stated that the uneasiness or *soreness* (as she herself called it,) continued for three days after the instrument had been introduced, but was gradually diminishing. From every other source of uneasiness or discomfort of any kind she declared herself totally free. She had experienced a lightness of body and elasticity of mind which she had not enjoyed for many weeks, and was profuse in her expressions of gratitude for the benefit already received.

[The case continued to do well, and although the patient formerly felt it a burden to use any bodily exertion, she now felt a positive pleasure in exerting herself, and could walk two or three miles without fatigue.

The second case related by Dr. Cumming, was one of displacement of the womb, attended by symptoms which made the diagnosis difficult till the uterine bougie was used. The patient three months after labour, complained of down-bearing pain recurring at intervals. This could not at first be localized, but ultimately became more or less fixed in the left iliac region, and increased so as to be intense.]

Fearing that the uterus might be the seat of disease, I made an examination *per vaginum*, and discovered the uterus to be prolapsed, that portion of its body that could be reached by the finger hypertrophied, and *very* tender to the touch, and by the introduction of Dr. Simpson's uterine bougie, *that the pain which she complained of in the left iliac region was transferred from place to place, according as the uterus was moved by the instrument.* Of this latter fact, the patient herself became immediately conscious, very much to her surprise. She put her hand on the spot where the pain had been felt, pressed it hard, and exclaimed with considerable glee, "Doctor, it's away." By pressure on the right iliac region, however, I soon convinced her that it was not away, but had merely changed its position, and by a slight rotation of the instrument restored it to its original site. This I need scarcely say was to my own mind satisfactory and conclusive, but at the same time so little expected by me, that I repeated the experiment three or four times, and was each time made aware of the movements of the uterus, not more by the rotation of the instrument carrying an inertly resisting body at its extremity, than by the exclamations of the patient, that the pain was varying its position. Conceiving this to be a proper case for the employment of Dr. Simpson's new silver pessary, I procured from him one of those which he submitted to the inspection of the society some months ago, and introduced it (not however without difficulty) on the 5th of May. *No sooner was it introduced than the pain ceased.* Whatever the explanation of this may be, the fact itself is unquestionable.

[On examination by the finger a fortnight afterwards, the os uteri had returned much more to its normal position, and on inserting the bougie, the cavity of the womb was diminished in length, to the extent of half an inch. Dr. Cumming states—]

That the base of the instrument rested not on the perineum, but on the rectum. and that its probe (or that part which entered the uterus) was directed in the axis of the brim of the pelvis; that it did not change its position during the whole time it was worn; but that apparently its impaction in the mucous membrane, in juxtaposition with the rectum, as well as a tendency to constipation, for which the patient daily took some aperient medicine, occasioned that uneasiness which led me to withdraw the instrument.

London and Edinburgh Monthly Journal of Medical Science, Sept. 1843, *p.* 800.

68.—ON THE CURE OF ANEURISM BY COMPRESSION.

By O'B. Bellingham, M.D., Dublin.

[In vol. 7, art. 89, we published two very interesting cases of popliteal aneurism, cured by gradual and occasional compression, under the care of Drs. Cusack and Hutton, of Dublin. Another case of a similar description had been treated with equal success by Dr. Bellingham, which is published at length in the Dublin Journal of Medical Science for July, 1843. The case and mode of treatment are in most respects similar to those which we have already noticed, and we need not therefore take up the reader's attention by again going over the subject. We think the following observations, however, by Dr. Bellingham, will be interesting to those who pay attention to these matters:—]

When we look back, at the present day, to the surgical treatment of aneurism, and particularly of popliteal aneurism, previous to the introduction of the Hunterian operation, we can easily recognize the causes of the general failure of the treatment pursued; and we can have no difficulty in understanding why surgeons, such as Pott, recommended amputation in preference to the only operation then known, which consisted in laying open the tumour, searching for the vessel which supplied it, and tying both ends of it. We can also readily comprehend the cause of the unwillingness of the surgeons of that period to undertake such an operation, which could not fail of being exceedingly tedious, difficult, and sometimes impracticable, and in spontaneous aneurism must have been generally unsuccessful.

These were the circumstances, in fact, which led surgeons originally to attempt the cure of aneurism by compression. Since the time of Hunter, however, the surgical treatment of aneurism has

been so much simplified, that, as his views came to be generally adopted, and his mode of operation to be generally practised, pressure in the treatment of aneurism had but few advocates, and its application seems, with a few exceptions, to have been limited to cases, in which the patient, from timidity, or other cause, refused to submit to the operation of placing a ligature upon the vessel supplying the aneurismal tumour.

In the early application of compression in the treatment of aneurism, the pressure was applied immediately upon the tumour, and the entire limb was at the same time usually compressed by means of a bandage; the patient, in addition, was in general submitted to the medical treatment of aneurism known as Valsalva's; that is, perfect rest in the horizontal posture, very low diet, and frequent bloodletting. Guattani, a surgeon of Rome, in the last century, appears to have been one of the first who put this method into practice to any extent; he treated fifteen cases of popliteal aneurism by pressure, and was successful in four of them. Several of Guattani's cases have been referred to by John Bell in his valuable work on surgery. This treatment was, however, very tedious and painful, lasting many months, and when it failed (which it frequently did) was usually followed by unpleasant consequences, such as the more rapid increase of the aneurism, or its quicker progress to the surface. This method of applying compression has been in a great measure abandoned by surgeons in aneurism of the larger arteries. It is often, however, successfully applied to aneurism at the bend of the arm following bloodletting, and other forms of traumatic aneurism, as well as to aneurism of the smaller arteries, such as the temporal, radial, &c.

The application of pressure to the vessel between the aneurism and the heart, with the view of either completely or partially obstructing the passage of blood through it, appears to be a much more recent practice. In the second volume of the Dict. des Sciences Medicales, Richerand has related perhaps the earliest case of the kind: it was that of a grocer in Paris, the subject of popliteal aneurism, who, by preserving the recumbent posture for twelve months, restricting himself to a low diet, with a bleeding once a month, and at the same time compressing the artery in the thigh by means of an instrument constructed on the same principle as a truss, was perfectly cured. In the third volume of the Lecons Orales, two cases of popliteal aneurism are related, in which compression was successfully employed at the Hotel Dieu by Dupuytren; in one the pulsation ceased in about three weeks; the apparatus employed was a semicircle of steel, with a concave cushion at one extremity, and a pad at the other, capable of being moved by a spring and screw; it is commonly known as Dupuytren's compressor. Dupuytren had recourse to pressure only, because the patient refused to submit to operation. He never appears to have employed this method subsequently; indeed he looked upon these two successful cases as the result of

some happy chance which might occur once or twice in the course of a long practice, rather than as the effect of a proceeding worthy of being adopted and recommended; it being well known that in several instances popliteal aneurism has undergone a spontaneous cure after the patient had been admitted into hospital for the purpose of undergoing operation. Two cases of this kind occurred some years since at the Meath hospital, where a bandage had been simply placed round the limb, which could have produced little or no pressure, and was not intended to act in that way. More recently another case occurred to Dr. Brunker in the Louth Infirmary, the details of which have been given in the Medical Press.

In the eighth volume of the Medical and Physical Journal, Sir Astley Cooper has described an instrument for compressing the femoral artery, which was employed in one case of popliteal aneurism by Sir William Blizard; although the patient possessed unusual fortitude, he was not able to bear the pressure longer than nine hours. A similar apparatus is mentioned by Sir Philip Crampton, in a communication contained in one of the early volumes of the Medico-Chirurgical Transactions, to have been tried in a case of popliteal aneurism, in which he afterwards assisted the late Mr. Dease to operate, but no force that could be borne was sufficient to stop the pulsation in the ham. Mr. Samuel Cooper has given a description of it in his Surgical Dictionary, and adds, that "few patients can endure the pressure of such instruments for a quarter of the time which Sir William Blizard's patient was able to bear it, when put on sufficiently tight to afford any chance of obliterating the artery; and on account of the suffering they occasion they are rarely used by modern surgeons."

A very ingenious instrument for compressing the femoral artery was subsequently invented by Mr. L'Estrange, and employed with success by Sir Philip Crampton and Mr. M. Collis at the Meath Hospital, in some cases where secondary hemorrhage occurred after the operation of tying the femoral artery. The late Mr. Todd, some years ago, successfully applied compression (by an instrument different from any of those alluded to) in one case of popliteal aneurism; it was also used with success, though under most unfavourable circumstances, by Mr. M'Coy, in a case of femoral aneurism, which he brought before the Surgical Society at a late meeting. I am not aware that this instrument was subsequently tried.

No attempts to cure popliteal aneurism by pressure appear to have been made again, until Mr. Hutton was induced to revive the practice; indeed all the modern works on surgery rather discourage any such attempts. This seems to have resulted partly from the imperfect construction of the instruments employed hitherto, partly from a mistaken theory respecting the mode in which pressure acted, or from ignorance of the exact amount of

pressure required. Thus, surgical writers appear to have been under the impression, that in order to cure an aneurism by compressing the artery above the tumour, it was essential to interrupt completely the current of blood through the vessel; in fact, to apply such pressure as would act like a ligature, cause inflammation of the coats of the artery at the part, and obliterate the circulation in the vessel at the point to which compression had been applied. Thus, Mr. Gibson of Philadelphia, in his work on surgery, observes, "compression is now rarely resorted to, experience having proved its general inefficacy. The process has been found, moreover, even when successful, so extremely painful and tedious that few patients can be induced to submit to it, or to persevere sufficiently long to accomplish a cure. That it operates, partly upon the principle of the ligature (when it does succeed), there can be no doubt; by compressing the sides of the vessel, causing the effusion of lymph, and finally, obliteration of the channel, so as to force the blood to abandon the sac, and pass off by the collateral branches." Mr. Guthrie, in his work, on aneurism, says, "the application of pressure by means of a spring pad, has been tried, and has sometimes, though very rarely, succeeded. The process is long and pain great, and there is danger of the part sloughing; the pain, indeed, is so great, that few persons can be persuaded to submit to it; and those surgeons who have tried it once, will not again put it in competition with the operation. Mr. White, his colleague in the Westminster Hospital, employed it successfully in a case of popliteal aneurism in a female. The patient bore the pain heroically for five days, but the parts compressed sloughed deeply." Mr. Guthrie adds, "that he watched the progress of the case with great attention, and that he would not be easily induced to employ Mr. White's instrument, or any other, for such a purpose."

When it was considered absolutely necessary for the success of compression, that such an amount of pressure should be applied as was almost certain to produce sloughing of the part, and very certain to occasion intense pain and suffering to the patient; and when, in addition, this was to be prolonged through five successive nights and days; we can readily understand why patients refused to submit to it; and we can easily account for the disrepute into which the practice fell, and for the unwillingness of surgeons to adopt this treatment, in preference to the simple operation of placing a ligature upon the femoral artery. It would, however, appear, that it is not at all essential that the circulation through the vessel leading to the aneurism should be completely checked; it may, perhaps, be advantageous at first, for a short period, by which the collateral circulation will be more certainly established; but the result of this case, if it does no more, establishes the fact, that a partial current through an aneurismal sac will lead to the deposition of fibrine in its interior, and cause it to be filled and obstructed, so as no longer to permit of the passage of blood

through it. Pressure, in order completely to obstruct the circulation in an artery, must necessarily be slower in curing an aneurism, as it must in some measure act, by causing obliteration of the vessel at the part to which the pressure has been applied; whereas a partial current through the sac enables the fibrine to be readily entangled in the parietes of the sac, in the first instance, and this goes on increasing until it becomes filled; the collateral branches having been previously enlarged, the circulation is readily carried on through them.

It appears to me, that in resorting to compression in popliteal aneurism, with the view of causing the sac to be filled up by fibrine, we should never neglect the accessory measures, known as Valsalva's plan of treatment, which alone have been sufficient to effect the cure of aneurisms of large size. In fact, I look upon bleeding and low diet as material aids in bringing about the cure by pressure. Bleeding will cause the blood to coagulate more rapidly, but it may be said that it will also have the effect of hurrying the circulation; we have, however, in digitalis, a very efficient means of diminishing the frequency of the action of the heart and arteries, and of quieting the circulation, when the patient is kept in the horizontal posture; and if we take into account the condition of the vessels when the amount of the circulating fluid is diminished, we shall find that the sac of the aneurism is placed in a very favourable position for entangling the fibrine, which, if it continue to be deposited, will ultimately lead to the obliteration of the sac, and the cure of the aneurism.

The application of well regulated pressure, then, in the treatment of popliteal aneurism, combined with the other measures to which I have alluded, must be regarded as a considerable improvement in surgery; the operation of tying the femoral artery is perhaps the least successful of that on any of the larger arteries, "in consequence of secondary hemorrhage on the one hand, and phlebitis on the other, so frequently resulting." And when, within a short period, three cases have occurred in succession in different hospitals, and under the care of different surgeons, it is not too much to expect (from the improvement which has been effected in the construction of an instrument for the purpose), that the necessity for performing this operation will, in future, be much diminished. This result, however, must depend upon the trial of compression in a larger number of cases, though its success in these offers great encouragement to surgeons to attempt it, inasmuch as the difficulties which hitherto surrounded it have been in a great measure overcome; and the correct theory of the mode of action of pressure, and of the amount of compression required for the success of its application, have been I think pretty nearly established.

Dublin Journal of Medical Science, July 1843, *p* 460

[An interesting case of aneurism of the thigh is related by Mr. Liston, in which compression on the above principle was successful. See "Lancet," Oct. 28, 1843, p. 105.]

69.—ON VESICO-VAGINAL FISTULA.

By M. Lallemand, Professor of Clinical Medicine at Montpelier.

[This is one of the most interesting papers which we have lately seen on the subject of vesico-vaginal fistula, and as it is from the pen of a truly practical surgeon, we may depend upon the modes of treatment being well adapted to the different kinds of fistulæ commonly met with. Almost all these kinds of fistulæ are caused by difficult parturition; and as we suspect that they are much more common on the continent than in Great Britain, so we suspect that they are too commonly produced by a too officious interference with the efforts of nature. These fistulæ are generally situated in the median line, and are frequently the results of circumscribed gangrene of the vesico-vaginal septum: they may occur however, at any part where continued pressure or other injury may have been inflicted.

In the cure of these cases, it is evident that the form and size will materially influence the kind of treatment to be adopted.]

It may be asked what size of the fistula ought to deter us from attempting the cure? It is impossible to fix on any particular limit; but we may say, that *we ought always to be able to bring the edges of the fistula into complete contact, at least, for the greater part of their extent*, for though we cannot obtain a complete union on the first attempt, we increase the facility of treating the fistula by diminishing the extent of the opening.

The size of the fistula should, however, determine the particular mode of treatment to be employed. In all cases where the mere intumescence of the edges of the opening suffice to keep them together, we should content ourselves with simple cauterization. These fistulæ contract, in proportion as the cicatrization advances, owing to the interstitial absorption common to all newly formed tissues, and which is established for the purpose of consolidating and rendering them more compact. When this process, which occurs in all kinds of cicatrices at a particular period, has ended, the contraction of the opening remains stationary; but when the lips of the fistula came into contact, and are preserved from the action of the urine, they are no longer in a fit condition to unite, for they are hardened and capable of undergoing any other change. When matters have reached this point they may continue so for the rest of life; no matter how small the opening be, it will not close, and will give rise to as much annoyance as when of larger size, for it allows quite enough of urine to flow through, to excoriate the soft parts and to diffuse around the patient a disgusting stench. What ought we to do under such circumstances? To excite acute inflammation in the parts, so as to produce an adhesion of its surface by the exudation of an organizable plastic matter. Now, acute inflammation is always accompanied by tur-

gescence; if, then, the opening be small, the mere swelling of the parts may be sufficient to close it. At this crisis, if the urine can escape more readily by another passage, than through the fistula, the plastic lymph will have sufficient time to become organized, and the parts will be united ere the inflammatory action has ceased. All that is necessary, therefore, is to cauterize the parts, and to introduce a catheter into the bladder to effect a cure, provided the parts themselves are disposed to heal. Fistulæ of a larger size can also be treated in this way, provided we allow a long interval between each operation, and do not leave the catheter too long in the bladder; for lying in bed weakens the patient, besides we ought always to give the parts time to contract to the fullest extent before proceeding to another operation. There is one other circumstance, besides the great extent of the fistula, which should dissuade us from applying even cauterization, viz., *our inability to excite a sufficiently active inflammation*, for if the parts be not disposed to unite, our attempts at cure will only weary out the patience of the sufferer, and bring surgery into disrepute; in short, the cure ought never to be attempted except in cases where the constitution is favourable, and where we can bring the sides of the fistula into contact, and are sure that the turgescence of the parts after the cauterization will be sufficient to keep them in apposition.

Duration.—If the means for approximating the parts were employed immediately on the sloughs falling out, it is more than probable that we should obtain the complete union of as much as could be brought together; but once the acute inflammation has ceased, it will be necessary to reproduce it by cauterization in order to perfect the cure; the farther from the period when the sloughs fell out the less chance of success.

In every case in which I succeeded in rapidly effecting a cure, a year had not elapsed since the accouchement. The cicatrix should be always partly destroyed by the cauterization in order that the union may be completed.

The circumstances favourable for operation are, that the vesico-vaginal partition should be pretty thick, as also the edges of the fistula; the mucous membrane of the bladder and vagina healthy, and the urine free from any excess of salts or mucus.

I have already said that small fistulæ may be cured by cauterization, a catheter being in the meantime retained in the bladder. We may also endeavour to cure those varying in size from four to five lines in diameter, allowing sufficient time to intervene between the periods of operation.

It is often asked what method of treatment should we prefer. Cutting instruments, such as bistouries, scissors, and lancets, are very difficult to employ even when the fistula is near the neck of the bladder. Of this I have had ample opportunity of judging, and have consequently abandoned the use of them. It is difficult

to cut the edges of the fistula evenly and uniformly, and if a bleeding surface be applied to one which has not been cut, of course no union will take place.

With cutting instruments we are obliged to remove a considerable quantity of soft parts, and so increase the extent of the opening, without deriving any particular advantage. We do not by this method produce an intumescence of the edges of the wound, which is of the greatest service in bringing the parts into complete coaptation, and it also serves to arrest the passage of the urine into the vagina, so effectually, that the patients often fancy themselves cured of their infirmity: besides, we cannot by excision procure a more speedy adhesion than after cauterizations, nor are the parts more disposed to contract, or form adhesions.

We ought to abandon cutting instruments, seeing that they possess no real advantage, and that their employment is exceedingly difficult. The actual cautery should always be employed when we wish to destroy certain parts, to level inequalities and particularly when the opening is great, or else very small; when this opening is somewhat concealed, sinuous, and when its course cannot be followed by a stick of nitrate of silver. The cautery ought not to exceed a line in diameter at its thickest part; the shank ought to be much smaller, that it may retain less heat. We should have them of different shapes, for straight or sinuous fistulæ, as may be required. A demispeculum will protect the posterior wall of the vagina, whilst the fistula is exposed, and the superior wall should be protected by a spatula. When the orifice of the fistula is of moderate size, and regular, it matters little whether we use the actual cautery or nitrate of silver, and we should pay respect to the choice of the patient. When the fistula is very narrow, we should use a piece of nitrate of silver, expressly prepared for the purpose, for an iron sufficiently small could not retain sufficient heat to be of any use by the time it would be applied.

As to the best means for retaining the parts in contact, I prefer the *sonde airigne* to sutures particularly in transverse fistula, and these are the most common, for amongst twenty-one cases I only met with one whose direction was oblique. Are sutures more easily applied or less painful? most assuredly not. Moreover, they do not effect a closer and more exact apposition of the parts; and they are open to many other objections: with the *sonde airigne* we can increase or diminish the pressure at will.

The author ends his paper by giving a long description of the *sonde airigne*, which, unaccompanied by any woodcut or lithograph representation, we fear, would not be very interesting or even intelligible to our readers. We hope, however, soon to see it in the shops of our instrument makers.

Dublin Journal of Medical Science, July, 1843, *p* 523

70.—TREATMENT OF CICATRICES OF THE NECK AFTER BURNS.

By J. H. James, Esq., Surgeon to the Devon and Exeter Hospital, &c.

[Mr. James has been more than usually successful in curing those contractions after severe burns of the neck which have been so frequently given up as incurable. Most authors who have written on this subject, and amongst the latest Mr. Liston and Mr. Fergusson, state that after a division of an old cicatrix it will generally return to the same state of contraction in which it was before the operation. To remedy this, Dr. Mutter, of Philadelphia,* dissects out the whole of the contracted part, and supplies its place by sound skin taken from the contiguous surface. In a paper which Mr. James read before the meeting of the Provincial Medical Association he stated—]

That, whereas in the limbs no difficulty exists in maintaining the proper position of the part after the cicatrix has been set free, there being but one joint concerned, and that easily fixed, this is far from being the case in the neck, from the peculiar mobility of that part, arising chiefly from the numerous joints in the cervical spine. It might be supposed, *a priori*, and indeed has been, that confining the head back would keep the chin and sternum sufficiently asunder; but this is not so. To elude the effect of the cicatrix as it contracts, the cervical spine becomes shortened with a curve either to one side or backwards, as the case may be. To render this approximation impossible became, therefore, the object of my inquiry. I considered that if an apparatus could be interposed between the clavicles and lower jaw, extending backwards to the basis cranii, so as to prevent these parts from approaching each other, I should obviate the difficulty. These purposes are fully attained by the apparatus here presented, which possesses the further advantage of raising the chin by the action of the screw, so that the change in the position, not only of the soft parts, but of the bones, is gradually redressed, and the neck and face wholly, or in a great degree, restored to their former proportions; for it must be observed that the bones themselves, as in talipes or varus, become altered in their shape. The rigid cicatrix holds the chest and front of the face tightly together, so that, as the child grows (for it is generally in children these accidents occur, especially females), the whole bony apparatus is fixed; and when it has been chiefly on one side, I have even seen the orbit of that side considerably lower than the other. I have also seen the lower incisors pushed horizontally by the pressure of the tongue, the counter-pressure of the muscles of the lower lip being wholly wanting.

I do not pretend that all traces of so great a deformity can be effaced by the operation—that there will be no drawing down of

* See Retrospect, vol. vi, art. 51.

the lower lip, no scar, no detriment to the personal appearance, but I am warranted in asserting that the lips will be allowed to close, to retain the saliva, and for distinct articulation—that the head and face may be carried erect, and freely moved, the lower lids no longer everted—that the patient will enjoy her life in comfort, and no more exhibit a picture miserable to behold. It has been objected that the contraction may return. The answer is, that it does not, if the apparatus is worn for a few months after the healing is completed. The observation of many years warrants me in stating this.

I may further and incidentally mention, that the apparatus I have described not only answers the purpose for which it was originally intended, but that, if employed in due time, it is capable of preventing the primary cicatrices consequent on burns from contracting, as is fully shown by a patient, now under the care of my friend and colleague, Mr. Harris, just about to be discharged from this hospital; *and furthermore, that it may be most advantageously employed in those cases where the cervical vertebræ give way from disease, or where it exists in the processus dentatus, and support is required.*

Such are the uses of the instrument, and such are the advantages of the operation; but it must not be concealed that it is long, sometimes difficult, and very painful—that very great attention is requisite in the subsequent management, and a long confinement necessary on the part of the patient; yet, so strong is the feeling in the female mind of the horrid disfigurement, as well as physical disability, produced by these accidents, that I have never met with one patient who has not been deeply grateful for the relief afforded.

It is but right I should state that another mode of operating has been very recently proposed and practised by an American surgeon, Dr. Mutter, of Philadelphia. It consists in adopting the Taliacotian principle, so as to cover the wound formed in the neck after the removal of the cicatrix. It strikes me, however, that if this should be found preferable in some, in many *bad* cases it will not answer the purpose, unless the collar be also employed; for although, by a careful dissection of the parts at the time of the operation, the chin and the sternum may be very considerably separated, yet, without the continued and gradual action of the screw, they will not be restored to their natural position. In addition, I may mention, that in by far the greater number of bad cases, the adjacent integuments are themselves so involved in the mischief as to offer no suitable materials for a flap. I may observe, in this place, that in small cicatrices in any part of the body, I have sometimes adopted the plan of destroying them by caustic potass. The ulcer which forms offers no obstacle to any extension which may be wished, and the cicatrix which follows has no peculiarity like that consequent on burns by fire, a circumstance sufficiently remarkable in itself.

[The treatment consists—]

1. In dissecting the hardened cicatrix from the subjacent parts, having previously dissected it with a Brodie's knife in most cases, and, in all, forming a flap to turn up under the chin; and I may here take occasion to mention that I think it the safest and best method to operate on the patient in the recumbent posture.

2. In confining this flap under the chin by broad straps of adhesive plaster, and a uniting bandage, secured at the top of the head, which must be shaved to some extent.

3. In covering the large exposed surface in the throat with moistened lint, and bread-and-water poultices, confined by a paste-board collar, until suppuration is freely established, the head being rather thrown back at the same time.

4. By the use of the screw collar as soon as suppuration is established. In very bad burns it is often desirable to change the first for one with a longer screw, as ground is gained for its action. The apparatus should be worn for many months at least after the cure is completed.

Prov. Med. Journal, Aug. 19, 1843, *p.* 421.

71.—ON SOME POINTS CONNECTED WITH THE LIGATURE OF ARTERIES.

By James Spence, Esq, Lecturer on Operative Surgery, &c., Edinburgh.

[While the process which nature adopts in the obliteration of arteries after a ligature has been applied, has been minutely noticed by different observers, there is one circumstance, the importance of which, in Mr. Spence's opinion, has never been sufficiently remembered. What are the present opinions as to the changes which occur after the application of a ligature? Some writers believe "that permanent closure of an artery is principally effected by adhesion between the surfaces of its internal coats, but that the clot is necessary up to a certain stage of the process, viz., until, by its presence, it shall have excited such a degree of irritation as to give rise to adhesive inflammation between the opposite surfaces of the internal tunics of the vessel, to a greater extent than the presence of the ligature alone could produce; and then having no further need of its services, they dismiss it somewhat unceremoniously." This opinion is particularly entertained by Mr. Allan Burns, and in many respects is objectionable. Other writers believe that "the coagulum is a permanent provision in the process of obliteration, and absolutely essential to prevent secondary hæmorrhage on the separation of the ligature, that without it the adhesions between the divided internal coats would be quite insufficient to resist the impulse of the blood, and that it

gradually undergoes certain changes, becomes organised, adheres to the coats of the artery, and eventually renders the vessel an impervious cord."

In opposition to this opinion, which is particularly held by M. Manec, and plausibly supported by numerous and careful experiments, we have facts recently published which show that the clot is not absolutely essential, even in some of the largest arteries, although when it is present it will give rise to the results related by this gentleman. The most general opinion on this subject is that held by Jones, Travers, Guthrie, and others, viz., that "the permanent obliteration of an artery depends entirely upon the cicatrization of the divided internal tunics, and that the clot is merely an adventitious circumstance, which, when it takes place, may assist, but is not essential to the completion of the process." Now although all these opinions may be more or less correct under different circumstances, Mr. Spence thinks that the changes which take place on the exterior of the vessel, although slightly mentioned by Dr. Jones, have never yet been sufficiently valued. Mr. Spence says—]

If we examine an artery which has been tied, forty-eight hours after the operation, we find it surrounded for a considerable distance above and below the ligature by a deposition of pretty firm lymph, which presses upon and adheres to the coats of the vessel, completely embedding the ligature, which is deeply sunk between the ends of the artery. At this period the adhesions of the lymph to the arterial parietes, though distinct, are comparatively slight. When examined ninety-six hours after ligature, the effused lymph, though diminished in bulk, has become much firmer, and is, as it were, concentrated round the vessel; and when the external portion is dissected off, we see distinct filamentous bands passing from one end of the vessel to the other around its entire circumference. If examined at the ninth day after the operation, that is, when the ligature is separating, we find that the thread is enveloped in a tubular sheath of lymph, that the deposit round the vessel itself is now very dense and firm, and if the ligature be partially separated, we find that the effusion of lymph has kept pace with its separation, and united the ends of the vessel at the point whence the ligature has separated, immediately behind the thread. On the 13th day, that is, when the ligature has fairly come away, the lymph has assumed the appearance of a firm connecting medium uniting the divided ends of the vessel, not unlike the exuberant callus in a fracture; at the 28th day in some, but later in other cases, it has become much absorbed, so that the vessel has now the appearance of a firm impervious cord at that part where the effused lymph formerly existed.

From a consideration of these facts, I am induced to believe that the lymph effused around the artery, is of great importance in assisting the internal changes in the process of obliteration. First, and most obviously, by uniting the divided ends of the ves-

sel, and thus supporting the adhesion of the internal coats at the period of separation of the ligature, for, at that period, a sort of double action seems to go on,—the ligature ulcerating its way out, whilst, at the same time, the reparative process of effusion of lymph keeps pace with the ulceration,—a process in fact analogous to the old operation for fistula, with the gradually tightened wire, the reparative process literally following step by step in the track of the ulceration. There is also another very important, though at first sight less obvious effect which the effused lymph will produce from its very first deposition, viz, by its pressure it will diminish the calibre of the vessel, and thereby lessen the impulse of the blood in the neighbourhood of the ligature.

As to the views I have taken regarding the absorption or organization of the clot, they merely have reference to the present state of our knowledge on these points. I am inclined to believe in its organization, because direct proof has been given that coagula have been shown to become organized. As to absorption of the clot, though I do not mean to say that it cannot take place, we have as yet no proof adduced as to the manner in which such a change could be effected from the internal coats of arteries. There is, however, much to be done in investigating these points, and I believe that the zeal with which microscopical inquiry is now pursued, will be the means of furnishng us with a more accurate and distinct knowledge of the changes which take place both in these and other experiments.

London and Edinburgh Monthly Journal of Medical Science, June 1843, *p.* 501.

72.—ON POWERFUL COUNTER-IRRITATION, ESPECIALLY THE LONG ISSUE ON THE CALVARIUM.

By George Wallis, M.D., Physician to the Infirmary, and Lecturer on Anatomy, Bristol.

[Dr Wallis received the first hint on this subject from Mr. Richard Smith, the present Senior Surgeon of the Bristol Infirmary, who in many cases of severe injury of the head is accustomed to make an incision through the scalp, whether or not there be symptoms of fracture or depression: and this he does for two reasons, viz., to cause a local loss of blood, and to produce an advantageous counter-irritation. Dr. Wallis has used the same means in a variety of cases of organic affection of the brain, both chronic and acute; in paralysis, impending effusions, convulsions, erysipelas of the head, and membranes of the brain, in fever in the very advanced stages, &c. He says that "its effects are more permanent and its disadvantages are fewer than those of any other remedy now in use." It is not, however, to be used in the first onset of disease, but when all the ordinary means have been fairly

tried and have failed to produce relief. In acute diseases, the greatest discrimination will be required to make use of this remedy at the proper time; for if, in serous effusions, for example, it be delayed till the ventricles are filled with fluid and pressure has commenced, it rarely happens that absorption can be promoted sufficiently to effect a cure.]

The circumstances which are necessary to be attended to in making the longitudinal incision or issue on the calvarium are these:—Let the head be shaved entirely, and have the patient brought near to the right side of the bed: raise the head by a hard pillow, and put a towel round his neck to receive the blood; let an assistant keep the head steady; at the same time draw the scalp downwards in all directions, so as to strain the calvarium as much as possible; the scalp will divide with so much more ease. In this, your own left hand will materially assist, by placing it at the upper and back part of the head, commencing the incision between your thumb and fore-finger as far back as the lambdoidal suture; press the scalpel sufficiently down so as to divide the scalp entirely through at once; carry on the incision directly along the sagittal suture as far as the hair grows on the scalp, and which will cover the cicatrix after the issue is healed up. The length of the incision thus made will be in the adult about seven or eight inches; take care that the scalp be divided entirely and perfectly through, so that the edges of the incision will separate so far as to enable you to introduce a dossil of lint, rolled up hard, as thick as two fingers, and which should be well soaked in spirits of turpentine; this answers the double purpose of increasing the effect of the incision, and makes suppuration come on earlier, and will usually assist in stopping a further loss of blood. The arteries very soon retract and cease to bleed; there is seldom more than six or eight ounces of blood lost, and this quantity may be very readily curtailed if it be desirable to do so.

In those cases where depletion has been carried to a sufficient extent, prior to your determination to use this remedy, and the further loss of blood be unadvisable, it may be prevented in the following manner:—The instant the incision is completed, close the sides of the wound and make pressure upon it with your hand, whilst your assistant hands the lint, well soaked in the spirit of turpentine, and rolled up firmly of a proper length, so as not to extend beyond the extreme length of the incision, as it would be inconvenient in strapping down the wound sufficiently to check the flow of blood; a little flour and dry lint may be superadded if necessary, but the dossil must not be made so thick as to rise much above the edges of the wound, or else the adhesive straps will not be secure by being elevated, and thereby prevented from adhering near the edges of the incision. Should the incision be imperfectly made, that is to say, not entirely through the scalp, the arteries might be only partially divided; in which case they will continue to bleed, notwithstanding the pressure you may have made; of

course the arteries will require to be completely divided, to allow them to retract and cease to bleed.

The best method to adopt where there is much restlessness and delirium, and to which I generally have recourse when a further loss of blood is not desirable, and there is a risk lest the patient should disturb the dressing and cause the bleeding to be renewed, is the application of the *actual cautery* for an instant to the arteries; this is very readily done, and is not perceived by the patient. It is better to be provided with the means of doing so in every case where any additional loss of blood cannot be afforded. The common thick plaister knife, which is used for spreading plaisters requiring heat, answers very well, and should be put into the fire to be ready if wanted; in one instance I had occasion to regret that the surgeon did not take this precaution. The arteries divided are, of course, the coronal branch of the temporal and the anterior superior branch of the occipital, making two on each side; they will cease immediately to bleed by a slight touch of the red hot iron for an instant. This is a safe mode of proceeding, especially in all those cases where the loss of blood cannot be borne, and where the surgeon lives at a distance from the patient. In the greater number of cases, however, the loss of a few ounces of blood is an important advantage, and the arteries will retract and cease to bleed before you desire them. In such cases, where it may be desirable that a certain quantity of blood should be lost, the hæmorrhage may be promoted by the constant sponging of the wound with warm water.

When sufficient blood has flowed, introduce the dossil of lint, press it well into the wound so as to separate the edges as widely as you can, and apply your adhesive straps. These should not be more than one inch wide, and must be eight or ten inches long, that they may have a firm hold of the scalp, and support them by the double-headed bandage; or perhaps, in those cases where the night delirium is troublesome, the patient may pull them off or loosen them with his hands, or whilst rubbing his head or rolling it about on the pillow, by which means the arteries may be again opened and a serious and inconvenient loss of blood may occur; one instance of this kind having occurred in my practice, I do not wish to see another. The straps ought to be cut or set at liberty on the next day, the first minute you are safe from renewed hæmorrhage, on account of the inconvenience the patient feels from the pressure. Great relief is felt when the straps are cut, and a bread and water poultice is placed along the head on the top of the lint.

If suppuration be not inclined to come on by the second or third day, a little spirit of turpentine may be rubbed up with some unguentum resinæ flavæ, or even a little blister ointment, either diluted or not, may be used. When the lint comes out, another dossil may be used, rolled up in the same way, covered with digestive ointment or savine ointment, &c., so as to keep up an

effectual irritation. In a few days a double row of peas, seventy or eighty strung together, may be used to prevent granulations filling up the issue; a point rather difficult to accomplish, especially in chronic diseases where the issue is required to be kept open three or four months. Indeed this cannot be done without the repeated use of caustic, the application of which, however, is beneficial, not only in keeping open the issue, but also in adding to the effects of the issue as a counter irritant. Most cases require this to be done every five or six days, if you wish to keep up a continued and energetic effect.

[Dr. Wallis gives a series of very interesting cases to prove the truth and value of his recommendation.]

Trans. of the Prov. Med. Assoc., vol. II. *p.* 307—336.

73.—REMARKS ON THE REMOVAL OF FOREIGN BODIES FROM THE TRACHEA.

[In some observations respecting the case of Mr. Brunel, in whose trachea it is well known a half sovereign remained for some time, Sir Benjamin Brodie remarks—]

That the difference of symptoms indicating the presence of a foreign body in the air-passages would depend upon the size and figure of the body in question. If the body were large it would become impacted in the trachea, and the respiration would be obstructed. If it were small it would probably descend into the right bronchus, or perhaps into one of its divisions and the breathing would be less obstructed. If it were light or not irregular in shape it might ascend to the glottis during a fit of coughing, and produce suffocation. If it were heavy it would not ascend during coughing, and there would be less fear of bad results. It had been thought that in the present case the coin had passed into the right bronchus, because in some experiments on dead bodies it was found that a sixpence or a half-sovereign usually fell into this passage when introduced into the trachea. There was little inconvenience experienced by the patient when he was in the upright position, but he (Sir B. Brodie) believed that had the coin been allowed to remain, disease of the lungs, leading to a fatal result, would have followed. The failure of the stethoscope to afford any diagnostic assistance probably arose from the small space occupied by the coin; but even in more favourable circumstances it had been proved that we could not depend on this instrument. Mr. Hodgson, of Birmingham, had related a case to him in which a little boy, six years of age, had got a berry of the bladder-senna, as large as a pea, into the trachea. No sound whatever could be detected by the stethoscope. In seven days he died; the berry

was found impacted in the trachea, about an inch below the cricoid cartilage. Mr. B. Phillips had informed him of another case in which a little girl, two years of age, had died from the presence of a piece of the claw of a lobster in the trachea, on a line with the margin of the sternum, and in this case there were no stethoscopic signs of its presence whatever. The opening in the trachea in Mr. Brunel's case, had fully answered one of the purposes for which it had been made, for none of the spasms or convulsion had followed the inversion of the body subsequently to the opening being made. The proceeding failed in the other object contemplated; but it must be remembered that the introduction of forceps into the trachea was always very difficult, for not only might the instrument slide over the surface of the coin, or pass by its sides, but there was a fear of grasping the bifurcation of the trachea, a thing very likely to occur, recollecting that the parts were out of sight and at some distance from the surface. Every attempt to introduce the forceps was accompanied by great spasm and irritation, and contrary to what might have been expected from the experiments of Magendie, this irritation was produced whether the forceps were passed up towards the larynx, or downwards towards the bronchus. The forceps were accordingly abandoned for these reasons, and the fear of injuring some of the most important parts situated in that neighbourhood.

Lancet, July 1, 1843, *p.* 481.

[This interesting case induced Mr. Erichsen, of Welbeck-street, to institute experiments similar to those made by Majendie, some years ago,* to ascertain the effect of the irritation of the glottis, by the introduction of a foreign body, under the different circumstances of the trachea being entire and incised.]

Experiment 1.—The trachea of a dog having been exposed, a puncture, about a line in length, was made in it, about midway between the sternum and larynx. The animal continued to respire through the glottis, the opening in the trachea being so small that scarcely an appreciable quantity of air escaped by it. A small bent probe was then introduced upwards; the presence of this foreign body seemed to excite no irritation until it reached the larynx, when, as was to be expected, violent cough, with convulsive action of the muscles of respiration, and of those of the neck, the larynx being forcibly moved up and down, was induced. The animal foamed at the mouth, and struggled violently, having all the appearance of one in the earlier stage of asphyxia, the tongue becoming livid, and the eyes strained. On the probe being withdrawn, these phenomena soon ceased, but recurred whenever it was re-introduced. I found that although coughing was induced when the probe was passed downwards into the lungs, it was

* Majendie's experiment will be found in the Lancet for 1836-37, vol. 2 p. 505.

not of so intense a character as when the instrument was directed upwards, nor were the struggles so violent. On the employment of moderate force, it was easy to push the probe through the rima glottidis, but when this was done the appearance of distress was so much increased, and the danger of inducing asphyxia so great, that it was obliged to be speedily withdrawn.

This experiment was made with the view of determining the natural sensibility of the larynx and glottis of a dog when irritated from within. In order to introduce the probe, it was, of course, necessary to make a puncture in the trachea, but this was so small as not to interfere in any way with the action of respiration; which function was carried on, as usual, through the glottis.

Experiment 2.—The trachea being exposed, as in the first experiment, an incision, commencing about half an inch above the sternum, and extending upwards for nearly an inch, was made in it. The edges of this were held apart, so that respiration might be carried on through it instead of through the glottis; the animal was therefore in the condition of a person on whom tracheotomy has been performed. The probe was then introduced, as before, into the larynx, up to the glottis, when the same violent contraction of the muscles of respiration, and of those of the upper part of the neck, was excited, and attempts at coughing were made, which, however, could not take place perfectly, as the air was not forced through the glottis. There was one remarkable difference between the phenomena attending this experiment and those of the former one: to wit, that although the evidences of laryngeal irritation, and the consequent reflex muscular actions, were equally great, yet there were none of those symptoms of asphyxia observable in it which were so strongly marked in the preceding one. The reason of this difference was obvious; for although, in both cases, the irritation of the foreign body produced the same spasmodic action about the glottis, yet this could only give rise to asphyxia when there was no other opening through which respiration could be carried on; the tracheal aperture acting, as Sir B. Brodie observes, as a safety-valve.

Experiment 3.—The trachea being exposed as before, I introduced, and firmly tied, a wide pipe into the lower portion of it, so that respiration might proceed uninterruptedly; I then cut it completely across, immediately above the point where the pipe was introduced, about half an inch from the sternum, so as to separate the larynx and glottis from any direct connection with the rest of the respiratory apparatus. On introducing a probe as before, precisely the same phenomena ensued as in the second experiment; the muscles of respiration, and of the neck, being thrown into strong action, and imperfect attempts at coughing being excited, which usually terminated in convulsive expiratory efforts.

As these experiments have been repeated on five different dogs, and several times on each animal, with, as nearly as possible, the same results, I think they may be looked upon as accurate.

On reviewing the details of these experiments, it will be seen that the phenomena presented by them are divisible into two classes. In the first may be comprised those reflected movements which usually proceed from irritation of the larynx and glottis—such as attempts at coughing, violent spasmodic closure of the glottis, and convulsive action of the muscles of respiration and of the neck, which were common to all the experiments, whether the trachea had been previously opened or not. In the second class may be placed those symptoms of incipient asphyxia which occurred in the first experiment only, and which cannot happen except in those cases in which, the trachea being entire, spasmodic closure of the glottis will necessarily, by arresting the respiratory changes, occasion the symptoms and sensations of impending suffocation.

We are then, I think, warranted in concluding from these observations, that the existence of an opening in the trachea, sufficiently free to allow of respiration being carried on through it, or, indeed, complete division of that tube, does not materially, if at all, diminish the sensibility and contractility of the glottis. And this, it appears to me, is nothing more than we should *a priori* have expected, for it would have been a solitary instance in physiology if the suspension of function in so highly sensitive and contractile a part had at the same time entailed a loss of its perception of, and power of contraction on, the application of a stimulus. When a foreign body, therefore, accidentally introduced into the air-passages, escapes through the glottis without exciting spasmodic contraction of its muscles, or reflex movements in those of respiration generally, after an opening has been made in the trachea, it probably does so in the same accidental way that it entered; the sensitive parts through which it passes being as it were taken by surprise, whilst the attention of the patient is directed to the artificial opening, or to the circumstances in which he is placed. It would probably be as difficult for a patient (whether his trachea were opened or not) to expel a foreign body through his glottis, if his attention were fixed upon that part whilst he made the attempt, as it would for him *voluntarily* to introduce it into the air-passages through the same aperture. There is, however, this most important difference between the presence of a foreign body in the larynx, or at the glottis, before and after tracheotomy has been performed, that, although the sensations of local irritation, and the reflex movements consequent upon them, may in both instances be the same, yet danger from asphyxia can necessarily only occur in those cases in which the glottis is the sole aperture through which respiration can be carried on.

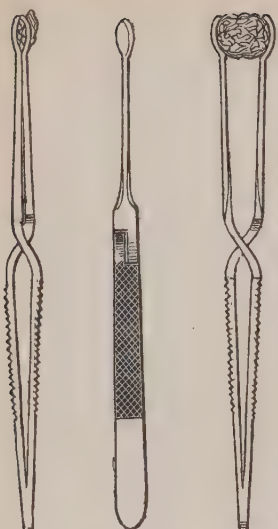
The point of treatment involved in the question that has just been discussed is nothing less than the object with which the opening in the trachea should be made—whether tracheotomy should be performed in order to facilitate the passage of the foreign body through the glottis, by diminishing the sensibility of that part, or,

whether it should not be had recourse to, in order to allow it a free exit through the artificial opening. It has been shewn that the natural actions of the glottis are not interfered with by the performance of tracheotomy, and the consequent suspension of its function by the passage of the air in respiration through another opening; we cannot therefore expect, as a probability, the expulsion of a foreign body through the rima glottidis, although the case that has lately occurred to Sir Benjamin Brodie has shewn the possibility of such an occurrence taking place. Tracheotomy, therefore, should not be performed with the expectation of, by any such procedure, diminishing the sensibility of the larynx and glottis; but should be had recourse to, as was, I believe, done by the very eminent surgeons who attended the patient in the case just referred to, with the intention of affording the foreign body a free passage through an opening not endowed with so extraordinary a degree of sensibility.

There is yet another practical consideration flowing from the preceding ones, and which was mooted by Mr. Quain. It is, whether in those cases in which a coin or other heavy foreign body has found its way into the air-passages, it would not be advisable, after the performance of tracheotomy, and before putting the patient into a prone position, to introduce some instrument into the opening in the trachea, so as to prevent the foreign body from being thrown, during the change of position, into the larynx, or against the glottis, and thus occasioning much distress to the patient, and embarrassment to the operator. This appears to me, as the sensibility of the parts is not materially lessened after the trachea has been opened, to be a sound piece of advice.

We have already the sanction of the very highest surgical authority in Great Britain for the employment of the prone position in those cases in which heavy bodies have found their way into the bronchi, in order that, after the performance of tracheotomy, they may be brought by their own gravity to the artificial opening in the trachea. Now I would suggest, in accordance with Mr. Quain's proposition, that, after the windpipe has been opened, an instrument of such a construction as would arrest the passage of the foreign body into the larynx should be passed into the incision in the trachea at its upper angle. The patient might then be placed in the prone position, and the head and shoulders being lowered, the coin, if dislodged from the bronchus, would either fall out of the tracheal aperture, or else, against the instrument; whence it might be readily removed either by means of a common pair of forceps, or by using it (the instrument) as a scoop.

With the view of thus occluding the trachea above the aperture, I have had an instrument constructed by Mr. Coxeter, of Grafton Street, of which an engraving is annexed.



It consists of a pair of cross-action forceps, the blades of which terminate in branches 2½ inches in length and slightly bowed at the extremities; within the bowed part is inserted a piece of delicate but strong net. The forceps open to the extent of three-quarters of an inch, which will be sufficient to obstruct all passage through the windpipe in the ordinary situation for tracheotomy. These forceps should be introduced edgeways in a direction corresponding to the longitudinal diameter of the tracheal incision; they may then, the patient having been turned on his face, be opened transversely; and the foreign body will, if dislodged, necessarily either fall out of the artificial opening, the sides of which will be kept widely separated by them, or against the net of the instrument; whence, as has already been stated, it may either be removed with a common pair of operating forceps, or else by using the tracheal forceps as a scoop. At all events, the great object of the instrument, that of preventing the foreign body from falling into the larynx, or against the glottis, and thus exciting irritation and distress would be accomplished.

Medical Gazette, July 14, 1843, *p.* 557.

[Mr. Edwin Casson, surgeon to the Bradford Infirmary, related an interesting case of this description to the Provincial Medical Association at Leeds, which differed in one material point from many cases related in this, viz., that although on percussion the chest was equally sonorous on both sides, the respiratory murmur was completely absent on the side where the foreign body (a small pebble) was lodged.]

Provincial Medical Journal, Sept. 2, 1843, *p.* 464.

74.—HINTS ON THE TREATMENT OF STRANGULATED HERNIA.

By Dr. James Arnott, Brighton.

Strangulated enterocele may be considered as the protrusion of a portion of the intestine from a large vessel or cavity (the abdomen) into a smaller vessel (the hernial sac), from which it is

prevented returning by a constriction at the aperture connecting the two vessels. In the large cavity the intestine is subjected to considerable but varying pressure; in the smaller one, under usual circumstances, there is little or no such pressure. The membranous ring forming the aperture is dilatable, or may be stretched in various degrees, and occasionally, it is probable, may be retained in its contracted state by spasm. And as the portion of gut in the smaller cavity or sac has its functions disturbed, and is generally thrown into a state of inflammation by the constriction upon it at the orifice of the sac, the worst consequences proceed from a continuance of this state.

Now, the indications of cure under the above circumstances would be—

1. To diminish the bulk of the protruded part. When so diminished, although the ring may remain in the same state, the constriction may be removed; but by the diminution of bulk the parts are, moreover, rendered capable of pessing through the ring, which is effected either by retraction from the action of the intestine within the abdomen, or by the intestine being pushed through it. The bulk of the part or parts may be diminished by having the congested blood squeezed out of them, or, in the case of the intestine, its gaseous and other contents.

2. To widen the ring or lessen its resistance to dilating means. This may be done by (*a*) dilating or stretching it, or (*b*) by cutting it, or (*c*) by removing spasm, and producing general relaxation.

3. To dispose the cavity of the abdomen for the return of the protruded parts, by (*a*) removing the contents of the intestine in the abdomen, or (*b*) diminishing the resistance from its boundaries.

4. To reduce the protruded part, either by (*a*) pushing it through the ring into the abdomen, or (*b*) by causing it to be drawn from the interior out of the sac.

Of the two modes of fulfilling this indication, the first has been a great deal too much confided in, and the second, of late years especially, a great deal too much neglected. The reduction of the protruded part by the efforts of the intestine with the abdomen, is the plan of cure adopted by the conservative principle, the "vis medicatrix," of nature. The bowels are quickly thrown into a high state of action by the strangulation, the tendency of which is to withdraw the strangulated portion from the sac; and if the surgeon were to limit his endeavours to diminishing the bulk of the hernial contents and disposing the ring to relax, nature left to herself would generally effect all that remained to be done. Many cures of strangulated hernia have been thus performed by unassisted nature. The suddenness with which the intestine will often pass through the ring when the constriction is removed, is sufficient proof of the retracting power within the abdomen.

5. To obviate or remove inflammation and other bad consequences of the constriction before and after this has ceased.

To fulfil these indications the following are the principal means now employed:—

1. The most important, and that first employed, is the reduction of the contents of hernia by the hand, an operation termed "the taxis." It fulfils, more or less perfectly, the indications 1; 2, *a*; 4, *a* and *b*; 5.

The mere reference to most of these indications is sufficient; with respect to others, a few words of explanation are necessary. The taxis is calculated to fulfil the indication 4 *b*, by the stimulus from the squeezing and kneading of the prolapsed intestine being extended to its continuation in the abdomen, and thus exciting its peristaltic motion. The indication 5 is fulfilled by the squeezing out of the acrid fæcal contents freeing the gut from that distention and irritation which might cause or increase inflammation.

The taxis would thus appear to be a very complicated operation, and, from this complexity not having been generally understood, much mischief has arisen, as a difference of manipulation is required for the accomplishment of most of the objects enumerated. Had the term taxis been dismissed from the surgeon's vocabulary, and the indications it fulfils been expressed separately, many of the objections that have been at various times made to it would not have applied. The first and most important indication of diminishing the bulk of the hernial tumour is well fulfilled, even after the first stage of the disease, by a continued and uniform pressure of the hands. The fulfilment of three of the others would be hazardous when the disease has existed for some time, and inflammatory symptoms have appeared.

Amongst the various manœuvres commonly used in the taxis, experience has shown the advantage of turning the hernial tumour at intervals from side to side, but, so far as I know, no explanation has been given why this should prove useful. I believe the reason is, that the channel for the passage of the fæcal contents may be thus freed from an increase of obstruction which has been occasioned by the contortions of the gut, and brought more on a line with its continuation within the abdomen. I advert to this expedient particularly with reference to a suggestion in the subsequent part of the paper.

One curious effect of pressure applied to the hernial tumour has not, I believe, hitherto been noticed. To those who, with Sir Astley Cooper, have supposed that the great if not sole object of the taxis is to push the intestine through the ring, the assertion will appear not a little paradoxical that it must frequently happen, when the protruded intestine is distended, that the pressure instead of pushing it out of the sac into the abdomen will, on the contrary, draw a fresh portion of the gut from the abdomen into the sac. This arises from the same cause mentioned above which occasionally produces an increase of the hernial tumour

The contents of the protruded intestine on being urged towards the ring or mouth of the sac bulge or press out each end of the loop as it gets contracted towards the stricture or ring, and thus draw out a fresh portion of the gut. Nor is this effect to be considered as injurious. The constriction is thereby removed from a part already perhaps hurt by its long continuance; and by the spreading of the gas and other fæcal contents of the intestine over a larger space, the irritating distention of it is removed, as well as other benefits obtained from the lessening of this distention, which will be afterwards noticed.

It has, indeed, been recommended to pull the intestine a little way further out of the ring previously to the attempt at reduction, whether by the taxis or after opening the sac.

2. Blood-letting. Indications 2, *c*; 3; 5. This measure, when carried to a considerable extent, has generally been considered of much efficacy; but it is obvious that in aged or weakly subjects large and repeated bleedings can never, in this or any other disease, be made without some hazard. Syncope, or an approach to it, might be produced in such cases with safety, and probably as effectually, by drawing the blood to the surface and into the limbs by means of the large cupping-glasses or cases that have been employed for this purpose.

3. The warm bath. The same indications are probably fulfilled by this remedy as by blood-letting. Although its general effect is powerful and salutary, its local effect may be injurious, by rarefying the air with which the strangulated gut is so often distended; hence poultices and fomentations are no longer employed in hernia.

4. The continued application of cold to the tumour. Indications 1; 2, *c*; 5. Sir Astley Cooper, whose opinions respecting the *modus operandi* of the taxis and of cold form a singular contrast to the excellence of his observations upon other parts of the subject of hernia, deemed the action of cold to be useful by reducing the sensibility of the parts, and by constringing the scrotum, and thus exerting a useful pressure on the parts. He pronounced the idea that it could be useful by reducing the volume of the air distending the gut an absurdity, and for two reasons,—first (he says), because it has not the effect of doing this; and, secondly, because if it had it would be of no service. It might be asserted with as much truth that the mercury in a thermometer is not contracted by the application of cold, and that the bulb of a thermometer can pass through as narrow an opening as its tube.

5. Injection of tobacco. Indications 2, *c*; 3; 4, *b*. Powerful as this means may be, it cannot be denied that it must be classed with the "operation," amongst the more hazardous remedies of strangulated hernia.

6. Purgatives and purgative enemata. Indications, 3; 4, *b*.

7. Antispasmodics. Indications, 2, *c*; 5. Opium and the other antispasmodics are now seldom used in strangulated hernia, but it has been lately asserted by certain French writers that much

benefit has accrued from rubbing belladonna on the tumour, and from applying both this and opium to the urethra by means of a bougie. That this method of treatment may prove of service I think is very probable, although I would ascribe the benefit not to the absorption of the medicines by the mucous surface, but to the general relaxation and fainting that is so often produced by passing instruments into the urethra. Whether syncope is produced in this manner, or by bleeding, or by the warm bath, or by extensive dry-cupping, the effects must be similar, although the causes of it differ exceedingly in respect to safety and facility of application. And I have often thought that this very common effect of passing instruments along the urethra might be applied with advantage in other cases in which syncope from large bleedings is usually recommended.

Another recent French practice in hernia is the application of large cupping-glasses *near* the tumour, to withdraw the intestine from the sac into the abdomen; and *over* the tumour, to draw a further portion of the intestine into the sac. It is improbable that either of these indications, more especially the first, can be so fulfilled, although dry-cupping in the vicinity of the hernia might be useful in various ways, on the principle of counter-irritation.*

8. When the greater number of the remedies already mentioned have been used without success in relieving the symptoms of strangulation, recourse is had to the operation of cutting the stricture or band of fibres which prevents the return of the protruded parts. This is done either by opening the sac, and, after searching for the stricture, dividing this and the constricted part of the sac at the same time, or by dividing the supposed stricture alone outside the sac. The first is a very simple operation, requiring little more anatomical knowledge than that of the appearance of the sac and the parts contained in it, and little more surgical skill than caution in dissecting down to the hernia. It is likewise, of course, a very certain way of removing the constriction from the hernial contents

* This powerful means of revulsion, formerly so much in use and so deserving of the confidence placed in it, is at present too often neglected on account of the trouble and supposed difficulty of applying it. But the apparatus and slight-of-hand dexterity of a professed cupper are not always required. A common beer-glass will answer for the above and similar purposes. The air within it may be rarefied without possibility of failure by setting on fire a little spirits of wine dropped upon a dossil of lint or cotton, or bit of blotting paper, previously fixed to the bottom of the glass with wax; and the glass may be covered with thin paper wet (in order that it may yield to the distention) and having in its centre an aperture much smaller than the mouth of the glass. Amongst the various modes that have been adopted for extracting the air from cupping-glasses I am not aware that it has yet been suggested to produce a vacuum by the fall of a column of fluid, as the Toricellian vacuum is produced in the barometer. Of course the vacuum need not be rendered complete. In the application of the large cupping-vessels, alluded to above, where it is of importance that the rarefication of the air should be sudden, such a mode might be used with advantage. The application might be made in an upper bed-room, and the warm water filling the cupping-vessels be allowed to escape by a long tube reaching to a reservoir at the bottom of the house.

and of exposing their condition to the view of the surgeon. But with all these advantages it is decidedly a more hazardous operation than the latter, when this is skilfully performed and is effectual in removing the stricture. The circumstances of the particular case and the degree of skill of the operator undertaking its management, must often determine which plan is the most eligible.

From the classification and *modus operandi* of the remedies of strangulated hernia, I proceed to propose certain improvements of plans of treatment already in use, and another remedial measure on a principle different from any hitherto applied.

We have seen that long-continued pressure of the hernial tumour, and the application of cold to it, are amongst the most powerful, and, at the same time, the safest measures, we possess for the removal of its strangulation. But neither can these measures, singly, be perfectly applied in the modes hitherto adopted, nor can they, in such modes, be used in combination. If, notwithstanding, they are often successful when separately used, even in their present imperfect state, how much more frequently would they be so were they perfect and combined.

Before, however, proceeding to a description of the mode of accomplishing this, it will be proper to state, a little more fully than has hitherto been done, what must be the effects of these measures in combination upon the hernial tumour.

The continued application of cold and pressure must often diminish the bulk of the protruded parts by reducing the volume of the gas with which the intestine is distended. In consequence of this diminution of bulk, the opposition is lessened to the retraction of the protruded bowel within the abdomen by the excited peristaltic action of the intestines, because the friction between the ring and both ends of the strangulated fold is lessened. Many other beneficial effects are to be added to this, most of which have already been adverted to, viz., the check to inflammatory action from the sedative operation of long continued cold; its antispasmodic effect; the diminution of the bulk of the tumour by the expulsion of its contents; the relief to the irritable, and perhaps inflamed, gut by the contraction of the volume of its contents, or their expulsion; the support, both preventive and curative of congestion and inflammation, which continued uniform pressure must afford to the protruded bowel; and the restoration, in consequence of the removal of this morbid condition, of its muscular or peristaltic action.

The means of perfecting the application of cold and pressure, and of combining their agency, may be accomplished,—first, as respects the pressure, by placing a bladder of water upon the hernial tumour under such circumstances as that an uniform pressure (to be regulated by the depth of the water) shall be exerted on every part of its surface; and secondly, as respects the cold, by producing a current of very cold water through the bladder by means of two tubes, one conveying the water to the bladder from

a reservoir above, and the other conveying it away from the bladder to a receiving vessel at a somewhat lower elevation.

The bladder must be confined to the hernial tumour by a metallic or wooden case in the form of a basin (a small flower-pot would answer tolerably well) of considerably smaller diameter than its own, and having an opening in the centre for the passage of the current tubes. Before this case is lowered upon the surface of the abdomen, care must be taken that the hernial tumour shall be placed in the best position for the evacuation of the contents of the intestine, and that it shall be imbedded in, and surrounded by, the loose bladder; and the position of the tumour should be altered from time to time during the action of the remedies. The case for the bladder must be kept close to the surface of the body by a degree of pressure just sufficient to resist the distention of the bladder; and this, again, may be done by a bandage, or the truss, perhaps, which the patient has been using. Where the surface is irregular to which the case has to be applied, the distended bladder may be prevented escaping at any point by pushing out from beyond the margin of the case a number of strong flat wires previously placed closely together and tied round its outer surface; or its diameter and the line of its margin may be altered by plaster of Paris.

The metallic tubes forming the current apparatus may have their ends fixed together by sealing-wax, or be soldered into a short bit of larger tube, upon which the neck of a pig's bladder may be tied; and if they are tied together for the space of a few inches above their junction, their separation will be still further prevented. Many details respecting the action of this apparatus may be learned by a reference to my paper "On the Local Application of Heat and Cold," in "The Lancet" for the 25th of June last. It is only necessary to mention here that the degree of pressure of water on the tumour will be regulated by raising or lowering the tubes of the current apparatus.

Other means might be contrived to effect the purpose of that described, but none, perhaps so simple, or so easily managed. A deep cylindrical vessel might be used, having a loose membranous bottom, supported and confined to the tumour, as in the former plan, and ice may be thrown into it at intervals. Although such a vessel need not be of the same diameter throughout, it would be necessary to support it over the abdomen, as a microscope is supported by its stand.

I have stated in the paper referred to, why a current of water is, in most of its medical uses, preferable to the application of ice, and even its power of reducing temperature may be superior, just as the exposure of a heated substance to wind more quickly cools it than exposure in a still atmosphere of lower temperature.

Were it desired to make this fluid pressure greater at one part than another, it might easily be done by altering the position of the body, or by using the pressure of a little mercury as well as water. The late Mr. Earle proposed making pressure on hernia

by a bladder containing mercury; but without applying the principle of causing the pressure to be exerted on every point of the surface of the tumour, little or no advantage could be expected from such a measure.

This conjoined agency of pressure and cold may be had recourse to in simultaneous combination with several of the other remedies usually employed, even (singular as it may at first appear) with the warm bath, the greater pressure of the cold keeping off the warm water, and thus preventing its injurious local effect formerly noticed. But I have already adverted to the extraordinary neglect that has generally obtained of the principle of simultaneous combination in the application of these means, and to the advantage of classifying them, as an illustration of their compatibility. Had the safer kind of measures been more frequently used in combination, there would have been less occasion to have recourse to those which, from their own action, put the patient's life in danger.

In a case of strangulated omental hernia, in which I lately recommended the combination of cold and pressure, the taxis had been repeatedly tried, and during longer periods than is usual. The hot bath had been also used for upwards of an hour; but all without avail. On the contrary, the tenderness and irritation of the parts were increased by these measures. Under the action of cold and a pressure of about eighteen inches column of water, the pain and sickness were soon mitigated, and although complete reduction did not take place for some days, no symptom of strangulation continued after the first twenty-four hours.

The combined effect of these two powerful measures would probably quickly diminish, and accomplish the reduction of many of what are called "irreducible herniæ." The means introduced by Arnaud, and at present employed for their cure, are generally too tedious in their action to be persisted in, and many persons are, consequently, condemned, on their abandonment, to pass through life burdened with a great and dangerous inconvenience; for, with this affection, the patient is in constant jeopardy, unless he lives as an invalid, and remains constantly on his guard against such muscular exertions and accidents as would convert his irreducible into a strangulated hernia. The extraordinary cures related, as having been performed on the principle of Arnaud's treatment, of cases which, from the size and long duration of the tumour most surgeons would have deemed incurable, upon the supposition of the existence of extensive and strong adhesion between the hernial contents and neighbouring parts, ought to encourage us to make new attempts at the alleviation of this common and distressing form of rupture.

I do not anticipate the objection to such a plan as that which I have been proposing, that it requires more skill, and would be more troublesome in the application than the usual methods. No conscientious surgeon would offer such an objection. But in cases

where there might be a difficulty of procuring even so simple an apparatus as that described, the practitioner might still advantageously combine cold and pressure by compressing the hernial tumour, as equally as possible, by some folds of sheet-lead, and placing a bladder of ice over it. A more perfect means constructed upon this principle, combining elasticity as well as the power of applying pressure to an unequal surface, and which might be termed an artificial hand, would be a tolerable substitute for the equable and uniform pressure of the fluid.

Lancet, June 24, 1843, *p.* 431.

[During the application of cold and the pressure of water above recommended, the patient ought to be kept in the same position as for the operation of the taxis. But as the recumbent posture could scarcely be maintained during the whole of the period that would be required for the replacement of irreducible hernia, Dr. Arnott recommends to substitute at intervals the equable pressure of condensed air, in the manner proposed by him in an article on the application of fluid pressure to the surface of the body, in the Medico Chirurgical Review, for 1841. "That part of the Macintosh air-case in contact with the skin, must be thin and of larger dimensions than the outer part, for the purpose of its coming closely in contact with all the inequalities of the surface." Dr. Arnott makes some just observations on the hopelessness with which patients labouring under irreducible herniæ are left to suffer the inconvenience and danger of their situation, during the rest of their lives. "This proceeds from the erroneous notion that adhesions, and not increase of substance or congestion, prevent the replacement of the hernia; and that adhesions when they do exist will not yield to any treatment, but the dangerous and inadmissible expedient of the knife."]

That pressure steadily applied will cause the absorption of morbid growths or adventitious matter, has been proved by numberless well authenticated observations and experiments, and is, indeed, a fact now undisputed. The pressure of an elastic bandage has often been advantageously used to promote absorption in chronic hernial tumours; even scirrhous and malignant tumours have been found to yield to it. And that pressure can be much more uniformly and equally applied as well as more easily controlled by means of a fluid than by the bandage, must be admitted by every one who will reflect upon the difference between applying a bandage to the top of a globular tumour and keeping this surrounded by, or imbedded in, a bag of condensed elastic air. By these qualities of fluid pressure, the injurious irritation or inflammation which has so often put a stop to the attempt at curing various diseases by other modes of pressure, will be effectually prevented. It is not, however, a very uncommon mistake to suppose that when one mode of treatment is only an improvement on another, and not very different in principle, it cannot materially signify which

mode is employed; and yet it would be just as reasonable to expect, in administering a medicine which only fulfils the indication of cure when a certain dose is given, that the same beneficial effect should be produced by the exhibition of a smaller quantity. The instance of irreducible hernia is not, indeed, so good an illustration of this as strangulated hernia, for the diminution of which the pressure of the hand is applied in the taxis, because considerable benefit may be received from only partially diminishing its size; but unless the bulk can be lessened to a certain degree, there cannot be obtained that immunity from danger which the complete reduction of the hernia can alone afford.

The possible effect of the taxis which I have suggested above, in drawing a fresh portion of intestine into the hernial sac, is not likely to occur when the pressure is equally made by a fluid; consequently, there would be no opposition from this cause to the salutary force that may be exerted in the contrary direction by the gut within the abdomen. If it be deemed advisable, at any time, to attempt with caution to draw another portion of intestine into the sac, it should be done in a more direct manner than by the unequal pressure of the taxis; and this would probably have been more frequently attempted had it occurred that in the cases where strangulation arises from the gut, which is encircled by the ring becoming inflamed and tumefied, the strangulation would cease were the swollen gut replaced by a healthy portion of smaller diameter. Of course, under these circumstances, the hernia would continue irreducible for some time after the removal of the strangulation; nor would it be proper to endeavour to reduce it soon afterwards; for independently of any such endeavour, the strangulation might be renewed by the lately liberated portion being again drawn into the ring by the action of the intestine in the abdomen, before its tumefaction has subsided to the requisite degree.

The next proceeding which I have to submit for the consideration of surgeons, may be employed when other measures have proved ineffectual, and before adhesions have formed, or the lesion of the intestine is so great as to prohibit any attempt at relief but by the removal of the stricture by "operation."

This proceeding is, to distend, by a copious injection of fluid, the intestine immediately below and connected with the strangulated portion, and thus gradually to withdraw it from the sac. The principle of this practice has already been adverted to when explaining the various modes in which the taxis operates; and it may be illustrated by a very simple experiment more satisfactorily than by any further explanation. Put a loop or fold of the intestine of a pig between two fingers, and distend it by a syringe, whilst the fingers are strongly grasping the loop. Immediately on the gut's becoming filled, its loop (representing the strangulated portion in hernia) is gradually but powerfully withdrawn from between the fingers.

In strangulation of the cœcum or colon (the latter of which is the gut most frequently protruded in umbilical hernia), such a mode would afford a speedy means of relief; but where the small intestine is contained in the rupture, the case is materially altered. The injection must then be forced beyond what has been termed the valve of the ileum.

That this has frequently been accomplished, and successfully, for the cure of obstruction in the upper portion of the intestinal tube, cannot be doubted, if the assertions of eminent men as to matters of fact are to be held of the slightest value. Cullen adopted the practice in ileus, on the advice of De Haen, and declares that he found it most powerful and effectual. In a paper contained in the second volume of the "Transactions of the Medical Society of London," Dr. Adair states that he only failed in two out of twelve or fourteen cases in which he had used this remedy. Dr. A. T. Thomson succeeded in two instances.

Other authorities may be adduced on the subject of forcing the valve of the colon. De Haen, in some experiments upon a dog, forced the contents of an injection into the stomach, from which they were ejected by the mouth. Abernethy (Lectures, "Lancet," vol. xi.,) mentions he had seen cases in which clysters had been vomited, the people living "long and happily" afterwards. Haller (if my memory does not deceive me) mentions the same fact, as also does Heberden, in his "Commentaries;" and if the following opinion of a high authority be correct, there would be little difficulty of injecting the small intestines in the disease now under consideration:—"As soon," says Sir Astley Cooper (Lectures, "Lancet," vol. ii.,) "as any portion of the intestines is strangulated, the anti-peristaltic motion begins; the valve of the ileum is of no use."

There is a figure of a sucking and forcing syringe for copious injections in hernia, given in Latta's Surgery, by which, he informs us, he had injected from one to five pounds; and he conceived that "not only the colon but probably the small intestine lying between the cœcum and contraction was distended." His purpose was to empty the bowels, and thus, of course, diminish the resistance from the abdominal parietes to the return of the protruded intestine or its contents, as well as to excite the peristaltic motion of the intestines, both by stimulating them and removing their distention. Dr. O'Beirne, of Dublin, has modified the operation of injection for the accomplishment of the former purpose, by passing a tube further than is usual into the bowel, and, as appears from his experience, with great advantage. Clysters, as a remedy in hernia, were formerly in considerable esteem, and many instances of success from their use were, doubtless, owing to their action on the principle I have been illustrating. It is to be regretted that the misunderstanding of this their more important operation should have prevented the efficacious application of them, and consequently led to their disuse.

If the stricture on the intestine by the ring be not great, the liquid of a copious injection distending its lower part within the abdomen, instead of withdrawing the strangulated loop, would enter it. Such an occurrence would be rare, and could hardly occur if the gut was really strangulated; but where it did occur no mischief would be done if care be taken to preserve a moderate pressure on the hernial tumour. On the contrary, benefit would probably result from the distention of the neck of the sac. Of course, it would be improper to make the attempt thus to withdraw the intestine from the sac while the strangulated portion is yet evidently much enlarged or distended, or where from the delay that has taken place, there would be objection to traction of any degree, and however produced. Yet how often has it happened that the strangulated intestine has been drawn into the abdomen by the peristaltic action of the bowel within, and the patient thus saved, after the tenderness of the parts and other circumstances have apparently left no other resource but the operation.

It need scarcely be observed that the injection of the small intestine will require a little more art than is usually exercised on such occasions. The first attempts may fail, but the sensibility of the parts will soon be sufficiently reduced to allow of the requisite distention.

On the failure of milder and safer measures recourse must be had to the operation of removing the stricture from the intestine by an instrument directly applied to it. The fibrous band constituting the stricture may either be dilated by stretching, or be cut. The latter, which is the only plan now in use, has already been adverted to. The advantages of dilatation over cutting, could it be as easily practised, would be the avoidance of the dangers of hæmorrhage and of wounding the intestine; and, as the opening in the peritoneum would be of less extent and farther removed from the cavity of the abdomen, there would be less danger of its inflammation.

The objections which have been made to the stretching of the ring have referred more to the instruments employed than to the principle itself. These, it has been said, are so bulky that where they can easily be introduced no stricture can exist, and consequently, ruptures apparently so reduced might have been reduced by the taxis; and where force has been used the gut has been exposed to injury from bruising. There is, undoubtedly, much truth in these allegations, but methods for fulfilling the indications may be contrived to which such objections would not apply.

Two or more broad flat probes, with wedge-like blunt points, might often be inserted on opposite sides of the intestine, and the stricture be stretched by separating them in a parallel direction, either by the hands alone or by easily contrived mechanism on the principle of the hand-screw. There must be two or more

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such probes used to prevent any injurious pressure on the intestine; and to this necessity not having been recognised may perhaps be attributed, in some measure, the disuse of the plan. The fluid dilator, which I have endeavoured to introduce generally into surgery, and which is so incomparably superior to other means of dilatation for the extraction of stone from the male or female bladder, as well as for the removal of contractions from the passages, is not so applicable here. In cases, however, where only a little more distention is required than the taxis can accomplish, it might be employed with safety. Its flexibility, little bulk when collapsed, and eccentrical action, are valuable qualities with respect to such an use of it; and where it could not itself safely produce the necessary extent of dilatation, it might facilitate the application of other measures.

To some varieties of the disease doubtless dilatation would be more applicable than to others; but, at present, all cases where the attempt at reduction by pressure fails after the strangulated parts have been exposed by the opening of the sac, however they may vary as to the character of the stricture or the dilatability of the ring, are subjected to the knife.

When the principle of dilating the stricture in hernia was revived in France about the middle of the last century (for it was probably from its obvious nature the original operation), the same principle applied to the extraction of urinary calculus was falling rapidly into disrepute, or, more properly, out of fashion. The remarkable change that has taken place of late years in the manner of performing lithotomy, in which dilatation, so long condemned as a barbarous practice, has now nearly superseded the use of the knife in opening a passage into the bladder, may dispose surgeons to examine a little more closely the validity of the objections that have been made to dilatation in hernia, and to ascertain whether they are the result of sound and unprejudiced reasonings on the subject. Authority is against this practice, but so has it been against a great many practices in surgery that nevertheless were the best that could be adopted; and, without wandering from the subject of hernia, a sufficient example of the worthlessness of mere authority in such matters is conspicuous in the late valuable revival, principally by the efforts of Mr. Key, of Pettit's much condemned operation of dividing the stricture outside the peritoneal sac.

By lessening the danger of the operation and facilitating its performance, the important advantage would, moreover be gained, of removing the causes of a fatal delay in having recourse to this final measure amongst surgeons unpractised in operations. There are two erroneous extremes in the management of strangulated hernia,—trusting too confidently, or for too long a period, to other measures than the knife; and, on the other hand, having recourse to this before other milder and safer measures have had sufficient

trial; but of these extremes the latter may be deemed the less dangerous.*

Although the suggestions which I have made of improvement in the treatment of hernia cannot be said to have had their value confirmed by experience, yet as remedial measures analogous to two of the principal suggestions have been in common use, the effects of these, at least, can easily be appreciated by comparison. The mode of causing pressure on the hernial tumour has hitherto been very imperfect. It has not only often failed in relieving, on account of its own inherent defects, but in many cases, indirectly, by the fatigue which its application occasions to the surgeon, and the supposed necessity of attending to other measures, obliging him to desist from its use before any benefit has been obtained. Nor has the surgeon been able to employ it at the same time with cold applications to the part, and hence has been lost the combined action of these powerful and perfectly compatible remedies. The great objection that many have urged against delay in recourse to the operation does not hold against this combination; for while the cold will keep inflammation at bay, this and the pressure together must diminish the size of the protruded parts. The proposal of drawing the strangulated part out of the sac by distending the lower part of the intestine in the abdomen is founded on a principle new to surgery, and consequently does not admit of illustration from analogy; but this is by no means the case with respect to the remaining suggestion of dilating instead of cutting the stricture in the operation for hernia. This practice has, indeed, been opposed by authority (although, as I have said, this is of little account where the judgment is apt to be biassed by prejudices and other influences inimical to the investigation of truth) but authority has been highly favourable to the principle of dilating the hernial stricture when accomplished by other means. For what is the commonly supposed object of the taxis but the dilatation of the constricted ring by forcing the protruded parts against it?—and the fluid contents of the intestine are forced against the closed ring by pressure applied to the hernia, just as an injection is sometimes forced against a constricted part of the urethra in retention of urine. While, therefore, the advantage of dilatation is admitted, when it is produced by one set of measures, surgeons should not be indisposed to examine into the character of its operations when otherwise effected.

Lancet, July 1, 1843, *p.* 467.

* The idea of dilating instead of cutting the stricture in hernia had occurred to me long before I discovered, by a note in one of the later editions of Mr. Lawrence's excellent treatise, that M. Le Blanc had practised such a method in France nearly a hundred years ago. The comparative results of the plan I cannot state, as I have not the opportunity of reading M. Le Blanc's work; the whole of my information on the subject of the dilatation of the stricture in hernia having been gathered from this note, and a notice of it in an article by the late M. Sanson, in the "Dictionaire de Medicine et de Chirurgie."

75.—ON PANNUS; AND THE CURE OF INVETERATE CASES BY THE INOCULATION OF THE MATTER OF BLENORRHŒA.

By Arthur B. Stout, M.D.

(Communicated to the Med.-Chir. Society of Edinburgh, by Dr. Hamilton.)

[Dr. Robert Hamilton has written this interesting paper on Pannus, from notes put into his hands in Vienna by Dr. Stout, and which embodied a short account of the recent experiments and observations of Dr. Jos. Fr. Piringer and Professor Jäger.]

By many, perhaps by most British authors of the present day, pannus seems to be regarded as synonymous with a vascular and obscure condition of the corneal conjunctiva only. In proof of this we quote beneath the words of Messrs. Samuel Cooper,* and Tyrrell,† Drs. Littell,‡ and Stoeber§, and of an able writer in the British and Foreign Medical Review for July 1840.‖ To these statements we invite perusal, under the clear conviction that they support the affirmation that the current definition of pannus at the present time, is a vascular and thickened state of the conjunctiva covering the cornea. That any of the authors here quoted would deny that the sclerotic conjunctiva is likewise implicated in the disease, we do not believe; and hence the error is mostly in the way of omission: but it is not on that account the less faulty; and hence, as so much, or entirely, disregarding the morbid condition of the sclerotic and palpebral conjunctiva, we consider it alike unfortunate and inaccurate.

Upon the views of Mr. Middlemore and Dr. M'Kenzie as being more fully expressed, we shall dwell somewhat more at length. According to the former of these gentlemen, the disease called pannus is nothing more than an opaque and vascular condition of the anterior membrane of the cornea, almost invariably produced by the continuance of purulent or strumous ophthalmia, or by chronic inflammation of the cornea. This part becomes nebulous, covered with red vessels, and opaque. . . . . Sometimes the sclerotic conjunctiva undergoes a similar change to

* At present the term *pannus* is applied to any opaque thickening of the layer of the conjunctiva covering the cornea. Surg. Dict. 7th edit. 1838, sub voce.

† *Pannus*, coarse, (cloth) a thick and vascular condition of the corneal conjunctiva. Practical Work, 1840, Glossary, ii. 544.

‡ Pannus, a thickened and vascular condition of the conjunctiva covering the cornea. Manual, 1840, p. 282.

§ On a appelé de ce nom (pannus) un réseau vasculaire formé par les vaisseaux dilatés de la conjonctive que recouvre la cornée, et accompagné d'un épaississement plus ou moins considérable de cet conjonctive. Manuel d'Ophth. p. 242.

‖ And first, on the word *pannus:* this morbid condition of the conjunctival layer of the cornea, in general so rebellious to treatment. No. for July 1840, vol. x. p. 36.

hat which occurs in the corneal portion, but this forms no neces-
ary part of the disease. . . . The conjunctival covering of
he cornea is first affected; in the progress of the disease the
ıfrajacent texture is involved in a similar morbid action, so that
ı the worst forms of long-continued pannus, the whole, or nearly
he whole of the cornea, undergoes those changes which unfit it
)r the transmission of light; and no therapeutic means which
an be employed will have any material influence upon the gene-
al structure of the cornea, and consequently will not succeed in
estoring vision.* To two of the opinions here delivered we feel
onstrained especially to object. 1st, to the doctrine "that the
ffection of the sclerotic conjunctiva forms no necessary part of
ie disease called pannus; and, 2ndly, To the assertion "that in
)ng-continued pannus, the whole, or nearly the whole substance
f the cornea undergoes morbid changes." However true these
atements may be respecting the history of corneitis, or of cor-
eitis combined with pannus, we believe they are incorrect when
pplied to pannus itself; and that the able writer has, in this
natter, inadvertently confounded things which really differ.

Dr. M'Kenzie again, herein following Beer, describes pannus
s a symptom, or rather a constituent part of scrofulous corneitis;
ı which the conjunctival layer, and the substance immediately
eneath that layer are chiefly affected, but in which all the tissues
f the cornea may be implicated. Sometimes, says Dr. M., the
hole cornea becomes covered with blood-vessels, giving it a red
)lour, a symptom which is styled *pannus*. With the views of
iis eminent oculist, so far as they refer to strumous corneitis, we
o not interfere; but, as far as descriptive of pannus, we must
emark, that they conjoin phenomena, or rather complaints, which
re by no means invariably or necessarily associated, and interfere
ith the recognition of their distinct and separate existence,—ex-
ibiting different symptoms, and calling for very different means
f relief.

Having thus dwelt on what we consider inaccurate definitions
nd views of pannus, we turn to what, in a scientific point of
iew, are the true ones; and shall supply a short description by
.. C. Rigler, the assistant of Jäger, and chief of the Ophthalmic
linic in the Josephine academy at Vienna, drawn up as late as
342, and yet unpublished. By this distinguished oculist, pannus
defined to be an increased and morbid action, (hypertrophy,)
ffecting the sclerotic and corneal conjunctiva; and it is divided
ito two varieties, P. *tenuis* and P. *crassus*, linked by many inter-
iediate forms. The P. tenuis is, moreover, defined to be hyper-
opy of the sclerotic and corneal conjunctiva, without disease of
ie submucous tissue; whilst in the crassus, carnosus, or sar-
)matous, this submucous tissue is also involved. The leading
ymptoms of the former variety, Professor Rigler states, are the

* Treatise on the Diseases of the Eye, vol. i. 497—500.

following:—"After a long continued inflammatory state of the conjunctiva, numerous delicate vessels extend from the sclerotic over the margin of the cornea, and expand themselves in the form of a grayish cloudy opacity, giving to the eye a dull and inexpressive appearance. These vessels increase in number, spread over the cornea, to a greater or less extent, usually running from the superior edge of the cornea downwards. The pupil thus becomes partially or entirely covered, and the iris concealed from view. The leading phenomena attending the second variety are an augmentation of those just enumerated. After obstinate inflammation, a thick tumefied net-work of varicose vessels is formed either primarily in the conjunctiva, or as the sequel of the foregoing variety. In high degrees of development the metamorphosis covers the whole cornea, giving to its entire surface a brownish-red colour, and producing numerous granulations. When the disease has proceeded thus far, neither the iris nor vessels can be distinguished, and the cornea appears to be involved; and if neither nature nor art arrest it, the sclerotic conjunctiva, especially in lax leuco-phlegmatic habits, becomes covered with a growth of pale red granulations, so called, almost insensible, but easily bleeding, which are so numerous that they sometimes appear confluent, encroaching upon the cornea, until they totally cover it. Their increase separates the lids from the eye-ball, sometimes everting them. In this way a simple pannus may be mistaken for medullary sarcoma; and the more so as the separation of the brown crusts which form on the surface, frequently occasion considerable hæmorrhage. Experience, however, proves that in this affection of the conjunctiva, the cornea often participates but little, and in the greater part of its depth remains quite transparent.

In the graphic descriptions of these eminent Germans every one the least acquainted with English ophthalmic surgery, will at once recognise a complaint which has much engaged the attention and excited the warmer feelings of many distinguished British oculists and surgeons. It was forced upon the attention of the profession and the public, as one of the most important sequelæ of the Egyptian ophthalmia, which produced such devastation among our troops, and frequently in civil life. It gave rise, moreover, to much keen discussion, and has not yet ceased, under the name of granular state of the eyelids and opacity of the cornea, to be regarded as one of the *opprobria medicinæ*.

[Mr. Lawrence seems to be almost the only British writer on this subject, who has clearly defined the disease.—]

In that chapter which treats of "purulent ophthalmia in the adult," and in that section which discusses the treatment of the diseased palpebral conjunctiva in the chronic state, he states:—"when purulent ophthalmia has been neglected, or insufficiently treated, and when the eye has consequently been repeatedly

inflamed, the palpebral linings became thoroughly altered in structure, and we cannot be surprised that it should be difficult, and, indeed, hardly possible to restore their healthy state. This condition of the parts has been called by English writers, the granulated state of the eyelids, . . . a very important effect of which is vascularity and opacity of the cornea. The mechanical friction of the granulations, on the surface of the cornea, causes its vessels to be enlarged, so that the texture of its conjunctival layer is loosened and thickened; hence haziness, a nebulous state, or more considerable opacity is produced. The following is the order of the events. First, disease of the palpebral lining; 2ndly, acute inflammation of the conjunctiva; 3rdly, full development of the granular surface, then thickening and hardening of the membrane; 4thly, vascularity and opacity of the cornea; the morbid change is frequently confined to the upper half of the cornea, that is to the portion over which the rough surface of the upper eyelid moves; whilst the lower half remains transparent; but the vascularity may proceed to the extent of covering the cornea with a net work of red vessels; and its mucous covering may be so loosened and thickened, as to exhibit the state technically called *pannus*, in which the boundary of the cornea can hardly be seen."

It thus clearly appears that the term pannus, so generally abandoned and misunderstood by British authors, is an appropriate and approved appellation for that most troublesome and well-known disease, which we are in the habit of designating by the periphrase—vascularity and opacity of the sclerotic and corneal conjunctiva, from a granular state of the lining membrane of the eye-lids;—the granulations here spoken of being nothing more than a morbid enlargement of the natural villi.

[We need not here refer to the keen controversy which some time ago existed, respecting the treatment of this disease. It will be sufficient to state that it has always confessedly been one of the most obstinate diseases which we have to encounter, and we are, therefore, the more willing to try any remedy, which in other hands has been more successful. This seems to be the result of inoculating the conjunctiva with the matter of blenorrhœa.—]

If we have an opportunity of treating from the commencement, or in its earliest stages, either the violent purulent ophthalmia, or the milder muco-purulent one, and in the former instance, have seen the organ safely brought through the imminent peril of rupture and disorganization, and in both, have an opportunity of treating early the slower and insidious process usually styled that of granulation producing opacity of the cornea, in other words, pannus,—then our hopes of a successful issue may be high and satisfactory; but, on the contrary, if these disorders have proceeded unchecked, and the pannus has made considerable progress, and become at all permanent, then we fear that all the common

resources of the art will be found alike futile and unavailing. This, from the very nature of the circumstances, is the character of those cases in which such oculists as Jäger and Piringer resort to the practice now to be considered; and such is the only class of cases in which the method is here recommended for adoption.

That Egyptian ophthalmia, in its most violent as well as milder forms, and gonorrhœal ophthalmia, from the direct introduction of urethral matter, and the ophthalmia neonatorum, should all be regarded as only varieties of one and the same disease, produced by one and the same morbid poison, and yet that this disease, so rapid in its course, and destructive in its consequences, should wittingly and of express purpose be proposed and employed as a remedy for the removal of another, not only implies that this latter should be most serious, and otherwise all but irremediable, but exhibits likewise in its successful issue one of the most striking instances of human ingenuity, and one of the greatest triumphs of the art.

[From the accounts of Dr. Piringer and Professor Jäger we find that 145 cases have been treated, and out of this number only seven cases were unsuccessful.]

In the great majority of cases, the affection pervades both eyes; and it must ever carefully be seen to, that the pannus is complete—that is to say, covering the whole cornea, and not partial only, because the remedial process affects very differently the diseased and the healthy cornea, risking and injuring the latter as much as it benefits the former.

The contra-indications, if we would look for anything like uniform and complete success, must be thoroughly understood and carefully observed. The incompleteness of the pannus, as just stated, is one. We must also discriminate, as before hinted, between this disease and conjunctival xeroma,—the cuticular conjunctiva of Travers,—the xerophthalmus of Beer, a disease in which the conjunctiva is always drier than usual, and appears as if skinned over, and in which the secretory structure of the parts appears altered, and its powers of forming mucus either partially or entirely lost; here the treatment by inoculation has no remedial powers. But by far the most important contra-indication is the existence of any dyscrasia, or bad habit of body, especially struma, also gout, rheumatism, syphilis, and such like. We are about voluntarily to subject the frame, and especially the delicate organ of the eye to a disorder which will prove more or less urgent and severe, and if the general health be not tolerably good, and the vital power considerable, then we have no right to expect aught else than destruction of the organ we wish to restore. The general health, therefore, should never be below par. Neither is this process a remedy for opacities of the cornea, including leucoma, over which diseases it has no power; and if they are complicated with pannus, while this latter is cured, the others remain. This remark naturally extends to various other abnormal compli-

cations, which continue as they were; whilst it is no doubt true, that some of them are placed by the process under much more favourable circumstances. Thus is it with cases complicated with cataract, and with closure, or adhesion, of the iris, which previously could not be detected, but which after this treatment may be removed with as much prospect of success as if no pannus had preceded. One other point must be attended to, namely, that when the functions of the sensitive parts of the eye have been for a time suspended, then it is to be expected that they will gradually be weakened, and finally extinguished. The time required for the complete destruction of the nervous sensibility varies, and does not appear to be satisfactorily ascertained. It probably ranges from between two or three to four or six years; and if the obstructing cause has continued until nearly the latter of these periods, it ought to be explained to patients, that such cases are not so favourable, as if they had sooner applied. At the same time, it is a fact, that often, under the renewed stimulus of light, those powers and parts which had so long remained dormant, are sometimes wonderfully excited again to their normal condition.

The virus should be selected from a case of mild blenorrhœa; which will readily be found in an example of ophthalmia neonatorum, a mild case being preferred. Should a case of this description not be within reach, then, by diluting the discharge of a more acute disease with water, or by exposing it for a longer or shorter time to the air, its virulence will be lessened; while, by regulating the quantity introduced into the eye, the result will still further be modified. It is evident that we should at first proceed with caution, and err rather by underdoing than by overdoing. If we fail once, no harm is done; and the virus may be applied stronger and more largely on another occasion. The more speedily the inoculation begins to take effect, the more violent are the symptoms likely to prove; and the more decided should be the remedies, if it becomes necessary to use any. Even when thus cautiously produced, the disorder must be carefully watched, and judiciously regulated. A thick, firm, fleshy pannus requires, for its dispersion, a higher degree of the sanative inflammatory action than a thin and less organized one. If then the disease prove mild and favourable, we should not interfere. If, on the other hand, the action threatens to be excessive, endangering the eyeball, local depletion, and if necessary, general, together with the usual constitutional remedies, and the local, especially cold or iced water, must be had recourse to. That the remedy is a severe one is undoubtedly true; but there are few who have the misfortune of labouring under the complaint, who are not found willingly to submit to it. We need scarcely add, that the disease excited in the eye affected with pannus, runs its course much less violently than when it attacks the healthy eye. It frequently leaves the cornea perfectly clear and transparent in the course of ten or

fourteen days, although it often requires a longer period, extending, on an average, according to Jäger, to about six weeks. And it is most satisfactory to know, that so far as the past experience of the method has proceeded, no case has occurred in which the morbid action has extended to the deeper seated parts of the organ; nor has it ever produced those disastrous effects which are so often witnessed after attacks of the healthy eye, such as suppuration, bursting, and evacuations of the humours. In fifty-nine of Dr. Piringer's sixty-one cases, not one was injured in the slightest degree.

As exhibiting the operation of the remedy, we shall here give an epitome of a few of Dr. Piringer's cases.

1. A man, aged 53, had thick fleshy pannus of both eyes, of two years standing, so that he could not at all perceive the light. In the year 1825, he was treated in the Vienna Hospital for the Egyptian ophthalmia; pannus notwithstanding followed, and in 1827 he was totally blind. In the year 1829, he was inoculated with the matter of a gonorrhœal ophthalmia, from a patient who had accidentally introduced the matter from the urethra into his own eyes. In forty-eight hours a very severe inflammation was fully established. As the patient had a cachectic habit, cold applications only were applied to the eyes. In two weeks he was able to discern objects; but eighteen weeks elapsed before he was dismissed in good health, and with perfect vision.

2. This second case exhibited an old pannus of two years continuance, along with considerable inflammation, lacrymation, and mucous discharge. For six months the whole armoury of pharmaceutical means was employed, with only slight and temporary improvement, so that they were given up in despair. Inoculation with the fresh matter of a simple blenorrhœa was now had recourse to, and in twenty hours acute blenorrhœa was developed. After eleven weeks the cure was so perfect, that the eyes appeared as if they had never been diseased. After the lapse of eight years, they remained in the same satisfactory condition.

3. The next case we notice is that of a student aged 18, who had one eye affected with pannus, the right, the other being quite healthy. The pannus was thick, with a central opacity, surrounded with a lymph-like exudation. The more usual treatment was employed for five weeks with all solicitude, but without any benefit. Inoculation with the matter of simple blenorrhœa was then had recourse to; and in eight weeks, after a mild inflammation, the disease was entirely removed. The central corneal opacity still remained, impeding vision; and this defect was removed by a slight artificial enlargement of the pupil. The left eye, being carefully protected from accidental inoculation, entirely escaped.

4. Dr. Piringer also reports a case in which the inoculation was repeated no less than five times. The patient was a man, aged 47, who had for several years been afflicted with obstinate ophthal-

mia, the sequela of the true Egyptian, together with thick fleshy pannus. The first inoculation failed, producing no apparent effect. The second excited only slight and temporary irritation. The third operated efficiently, was fully effectual, cured the chronic blenorrhœa, and reduced the pannus to the consistence of a thin membrane. The fourth diminished the pannus still more, so that light became visible, and the iris apparent: whilst the fifth inoculation removed all external disease. We adduce this case, not so much from the attending success, which though slow, was sure, as for the purpose of demonstrating that the process of cure is not so insufferable as might at first be supposed; and that patients will readily submit to it, in the anticipation of having their sight restored.

An unexpected and very striking illustration of that curious and obscure subject, known as the sympathy existing between the two eyes, more especially in their morbid condition, has presented itself during the history of this method of treatment, and must not here be omitted. That the diseased state occurring in pannus materially alters the organic character of the conjunctiva, and the parts immediately connected with it, and also the susceptibility of these parts to disease, cannot be doubted. Accordingly it was remarked, that if the inoculation was confined to the diseased eye, pannus existing also in the other, in a few days after the commencement of reaction in the former, the latter also took on the same action, and both the panni were alike cured. But when one eye only was affected, it was long feared that the destruction of the healthy eye would be the consequence of the inoculation of the diseased one; and the progress of improvement for a time was on this account retarded. Professor Jäger, however, on mature reflection, came to the conclusion, that this inference by no means necessarily followed. He boldly, therefore, inoculated the diseased eye, inducing the process which restored it to its normal state, and found that the healthy eye remained unscathed throughout the treatment. And now the rule is this, that when both eyes are affected, the inoculation of the one suffices for the cure of both; whilst when one only is diseased, there exists no sufficient reason for declining its cure; all that is required being, that the measure of care necessary when only one eye is attacked with gonorrhœal ophthalmia, shall scrupulously be observed in this case also. By due care it does not spread in the former instance, and no more does it in the latter. Cases not unfrequently present themselves in which one eye only is affected, the other being healthy; and the patient is annoyed, not so much with the loss of sight, as with the unseemly deformity under which he labours: and such is the uniformity of success, that a case of this kind may be fearlessly undertaken, with every prospect of the most favourable result.

Should an attack in the healthy eye unfortunately supervene, it is to be treated with the utmost promptitude and care; and,

upon the principles lately so ably inculcated for the treatment of violent purulent ophthalmia, by Mr. Tyrrell, we hope the success will be greater than has hitherto been noted in the annals of surgery.

London and Edin. Mon. Journal of Med. Science, July, 1843, *p.* 550—556.

76.—ON INJURIES OF THE IRIS AND ON ARTIFICIAL PUPIL.

By J. B. Estlin, Esq., F.L.S., Bristol.

Thirty years of experience in rather an extensive field of observation have strongly impressed upon my mind the remarkable power of the iris to bear injuries without destructive inflammation to that membrane, or to other textures of the eye. The highly vascular and nervous structure of the iris would lead to the expectation *à priori*, that no injury could be inflicted upon it without giving rise to serious and disorganising inflammation, but I have seen almost every possible kind of violence done to it with no more important consequence than such as the direct mechanical injury, produced at the moment of the accident, has occasioned. These accidents consist of lacerations of this membrane, cuts, punctures, separation from its attachments, together with protrusion through wounds of the cornea and sclerotica, and through openings occasioned by perforating ulcers of the cornea, in nearly all of which herniæ of the iris, the prolapsed portion becomes united to the wounded part.

In the extraction of a cataract, the greatest caution is exercised, ordinarily, by operation to avoid wounding the iris, and an insufficient section of the cornea has often been the consequence of extreme carefullness on this point. Mr. Guthrie has endeavoured to mitigate the apprehensions of surgeons with respect to the ill effects of such accidents, and advises that a portion of the iris should be incised by the knife while passing through the anterior chamber, if the tendency of the iris to fold over the knife cannot be prevented but by withdrawing the instrument.

My own experience leads me to similar conclusions; simple incised wounds of the iris, or those where a small portion has been unavoidably cut off, I have never found to lengthen the period of recovery, to give rise to iritis, or to produce subsequent inconvenience.

The liberties that may be taken with the iris is a matter of great importance, with reference to the operations for artificial pupil. I am inclined to believe that many persons with extensive opacities on the cornea, especially in cases where suppurative ophthalmia has pre-existed, are condemned to perpetual blindness, to whom a valuable degree of vision might be given by the removal of the iris opposite any clear portion of cornea that may be left. In every case of the kind, where there is no useful sight, if any

of the cornea is clear, and the eye be otherwise healthy, the operation ought to be tried; and I have been surprised to find with how small a portion of cornea remaining transparent, a person may have a degree of vision to some extent useful, and, in a great degree, a source of comfort to him. And in such cases I prefer the operation of tearing away a portion of the iris, and cutting it off. A small section is made in the cornea near to the clear portion, the iris drawn out with a hook or forceps, and as much cut off as is practicable. Care will be necessary in this operation to avoid injuring the crystalline capsule.

I have remarked a circumstance of a very curious nature in reference to the pupil in cases where this aperture can be of little use, if it exist in its customary position, near the centre of the iris. The fact has been presented to me under so many different forms, that I can have no doubt upon the subject, though I have not seen any intimation of the kind in writers on ophthalmic surgery. I am, therefore, desirous of suggesting the point to the attention of those medical men especially who have peculiar facilities of observing diseases of the eyes.

What I refer to is, *the efforts of Nature to form a pupil at that point of the eye where it will be most useful.* In examining eyes where central opacities of the cornea existed, I have been repeatedly struck with the appearance of the pupil, which I have observed to be of a long, narrow shape, as if the longitudinal fibres of the iris had been split for the purpose of producing an aperture exactly opposite the clear portion of cornea, so as to be in the most suitable part for distinct vision. I was inclined to attribute this to some accidental circumstance; and when it existed in persons in whom the opacity of the cornea was occasioned by external injury, I supposed it to depend upon the fortunate coincidence of a wound on that part of the iris at the time when the original injury was inflicted. But having remarked, with much interest, in operations for artificial pupil, that an aperture in the iris, made at some little distance from the clearest portion of cornea, will in time extend itself so as to be exactly in the position I at first designed and wished it to be, I can have no doubt that occasionally, in other cases of opacity from disease, Nature endeavours to remedy the evil by a similar effort. I am so satisfied of this fact as regards operations, as to have no hesitation in declaring it, under the hope that others may be able to verify it by their own observations.

[Mr. Estlin describes a mode of making an artificial pupil, which he has practised for many years. It is done with a small knife used originally by Sir W. Adams, called an iris knife, and figured in Makenzie's work. It has generally been used by being introduced behind the iris through the sclerotica, and then pushed through the iris into the anterior chamber. Mr. Estlin says—]

I have been accustomed to use this little instrument differently, inserting it through the cornea, near the temporal canthus, close

to the sclerotica, with the flat part of the blade towards the iris. The instrument being passed through the anterior chamber to its nasal extremity, the handle of the knife is turned a quarter of a circle, so as to bring its cutting edge against the iris, and it is then withdrawn by a quick movement, that depresses the point of the instrument upon the iris, so as to make a horizontal cut across that membrane.

I have found this mode of making an artificial pupil particularly successful in cases where the natural pupil has closed after extraction of the cataract. I have operated upon many persons so circumstanced, and have in an instant relieved all the disappointment of the patient and myself, at the apparent failure of an operation, in the result of which both were much interested. Of course a circular and handsome pupil cannot be ensured by this proceeding, though such will often be the result; but I am inclined to believe that those surgeons whose engagements have led them to deal much with cases of closed pupil, will be very thankful, as I am, to see a good hole in the iris, whatever its size or shape may be. I have seldom known any inflammation result from this method of dividing the fibres of the iris.

To one class of cases of fixed and nearly closed pupil, with cataract, this operation is peculiarly appropriate; indeed, more so than any other I am acquainted with. I have succeeded in giving very useful vision in such instances, where little hope of success had been entertained by other surgeons, or myself. I refer to those patients in whom chronic inflammation of the iris has accompanied the formation of cataract, where only a little pupillary aperture is left, and that of an irregular shape, the iris being apparently thinned, and its posterior surface glued down to the opaque crystalline capsule, often with portions of detached pigment tinging its surface, and the eye possessing so low a perception of light, as to excite much apprehension of the existence of amaurosis. (I would wish it to be clearly understood that in all the cases I am speaking of as fitted for operation, I presume that the patient is totally blind, for, while useful vision exists in one eye, I rarely advise any operation upon the other.

In such hopeless cases, then, supposing all inflammation and headache long to have subsided, the operation I am describing is well worthy of trial. It is to be performed exactly as before detailed. The cataract behind is often solid, and affords a good resistance to the knife in cutting the fibres of the iris. It is uncertain what will be the effect of the sudden incision. I have sometimes by one cut divided the fibres of the iris, and displaced the cataract, so that a clear pupil was instantly produced, and a sudden blaze of light let in upon the retina, quite astounding to the delighted patient. At other times a permanent aperture in the iris will be made, of sufficient extent to allow of a thorough view of the opacities behind the pupil, and to admit of future operations with the needle for their removal, either through the cornea or sclero-

tica. I lay claim to no credit for this operation, having seen Mr. Alexander perform it thirty years ago; but I am not aware of its being described in any works upon diseases of the eye.

Provincial Medical Journal, Aug. 26, 1843, *p* 441.

77.—ON THE DIVISION OF THE CORNEA IN THE OPERATION FOR CATARACT.

By JOHN SCOTT, Esq., Senior Surgeon to the London Royal Ophthalmic Hospital, &c.

[Mr. Scott has published a good little pamphlet on cataract, in which he describes a new knife which he has found useful in dividing the cornea. He considers that the chief difficulty and danger in extracting cataract arises from the force that is necessary to transfix the cornea with the instruments commonly in use, and although we cannot quite agree with him in this opinion, we think his knife likely to be very useful. He describes it as follows:—]

The back of the knife describes a sixth-part of the circumference of a circle, the radius of which is ten lines. The chord of the arc formed by the back of the knife is, of course, also ten lines in length, being equal to the radius of that circle. The knife is two lines in width at the heel, whence it gradually tapers to the point; it also increases uniformly in thickness, as well as in width, from point to heel.*

[The knife has its convex edge sharp on cutting, and its concave edge the reverse.]

Mr. Scott most justly observes, that the great objection to the knives of Wurzel and Beer are, that they act both as a wedge and a cutting instrument at the same time, in consequence of which the force employed in thrusting them through the anterior chamber tends to turn the eye inwards "to the nasal canthus of the orbit, whereby the inner side of the cornea is obscured from the view of the operator; he is unable to puncture it close to its sclerotic margin, and, in consequence, the section is too small for the escape of the cataract." To correct this tendency to inversion, when the wedge knives are used, pressure is often had recourse to on the nasal aspect of the globe, and, between the two stools, it often has happened that the lens, vitreous humor, and all, have come to the ground—a feat which has been performed before now in simpler operations than those for cataract. "Scott's knife" is intended to make the necessary section of the cornea for the exit of an opaque lens, without being open to the faults of the other knives which we have mentioned, and, at the same time, with greater security to the iris than they afford.

* See an engraving in the "Retrospect" at the end of this volume.

These proposed objects in the construction of the instrument are thus numerically stated :—

1. That it shall be of sufficient length to traverse complet ly the anterior chamber, and divide the nasal margin of the cornea.

2. That it shall increase in width and in thickness from point to heel, enough only to prevent the escape of the aqueous humor in its transit across the anterior chamber, but that its width shall have no reference to the dimensions of the section that is to be made, as that circumstance, I conceive, has occasioned all the difficulty of its introduction, and the chief danger of the operation.

3. That it shall be of such a shape and figure, that when introduced in the middle of the temporal margin of the cornea, and carried across the anterior chamber, it shall readily puncture the nasal side of that membrane ; and when placed in this situation, the cutting edge shall be so far beyond the pupillary margin of the iris, and opposed to so large a portion of its anterior suaface, as will prevent its escape beneath the edge of the knife to endanger its division in making the section of the cornea.

4. That when the section of the cornea is thus about to be made, the edge of the knife shall be opposed only to the margin of the section on either side, and not to an extensive portion of its internal surface, whereby its division would be attended with difficulty, as is the case in using Beer's knife.

Prov. Med. Journal, Aug. 19, 1843, *p.* 430.

78.—THE MOVEABLE NEEDLE-KNIFE, FOR SECTION OF THE CORNEA.

By William Mackenzie, M.D., Surgeon to the Glasgow Eye Infirmary, &c.

[In a case of lenticular cataract lately published, Dr. Mackenzie divided the cornea with the moveable needle-knife first invented by Pallucci (1763). There are two sorts of needle-knives, the *fixed* and *moveable.*]

It was from Pallucci's moveable needle-knife that I took the hint to have the one made with which I operated on Wylie. I omitted the groove along the lower edge of the needle, as I thought that was likely to allow the aqueous humour to escape ; but in other respects there is no essential difference between the two instruments. The needle part I made broader and longer ; broader, so that in transfixing the cornea with it I might accomplish a certain considerable portion of the section ; longer, that there might be less risk of the point of the needle slipping out of the nasal part of the cornea when I came to push on the knife. Pallucci's knife was convex on the edge ; I made mine straight, exactly like Beer's knife, that it might traverse the cornea with the least possible resistance.

Figure 1 shows the knife I used, reduced one-third, with the knife retracted, and its cutting edge directed upwards, as it will be held when the operator means to open the upper half of the cornea.

Figure 2 shows the knife pushed forwards, as it is when the section is completed.

The nail A, screwed into the back of the knife, serves to keep the edges of the needle and the knife in contact, and travels along a slit to B. The thumb, pressing on the verrouil, C, moves the knife forwards, in making the section.

The following are some of the advantages which appear to attach themselves to such a moveable needle-knife.

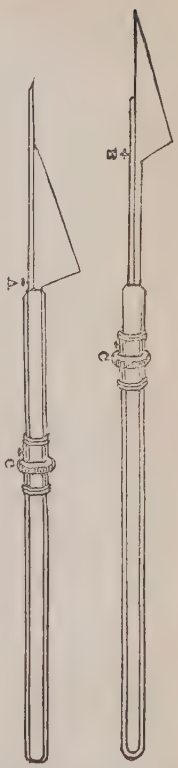
1. It is much easier to traverse the anterior chamber with a needle than a knife.

2. It is much easier to perform the counter-punctuation of the cornea accurately with a needle than a knife; and how much depends on counter-punctuating well, every operator is aware. The size and form of the section, depend, in a great measure, on exact counter-punctuation.

3. There is less risk of the aqueous humour being evacuated in traversing the cornea with a needle than with a knife.

4. The cornea being transfixed by the needle part of the instrument, the knife moves along a director, with perfect steadiness and certainty, and completes a regular section of the cornea, at a definite distance from its edge.

Fig. 1. Fig. 2.



The chief disadvantage attending the use of a moveable needle-knife (and which, though it did not occur in the least in Wylie's case, I have experienced on some subsequent occasions), is, that the pressure, necessary for moving on the knife to make the section, is apt to be accompanied with a retrograde movement of the needle, so much so that it slips out of the nasal side of the cornea, and allows the aqueous humour to escape. This danger may be partly obviated by having the instrument exceedingly well finished, so that the knife moves sweetly along the needle, and yet is not at all loose or unsteady. It is difficult to adapt the two pieces, of which the instrument consists, to one another with perfect accuracy, and yet slide along each other with the necessary freedom.

It occurred to me, soon after I began to try the moveable needle-knife, that if, instead of the needle and the knife forming part of the same plane, they were placed side by side, the motion of the knife might be rendered steadier and easier. I was confirmed in this notion by the examination of an instrument, invented by Dr. Louis Stromeyer, for artificial pupil, and called by him a *korectom.* It is in fact a needle-knife, the mechanism of which is extremely neat and well-finished. I therefore ordered a needle-knife to be made, pretty much like Professor Jäger's double knife, only that instead of two knives running side by side, there was to be a needle and a knife. The instrument, so modified, I have hitherto had no opportunity of trying. I may mention that Dr. Stromeyer's instrument is a knife for at once making a section of the cornea, and cutting out an artificial pupil. He describes and figures it in a pamphlet, published at Augsburg in 1842, and entitled "*Das Korectom.*" The needle is grooved along the side which regards the knife, for the purpose of allowing the aqueous humour to escape, and the iris to fall forwards, so as to be divided by the knife, which, on being pushed on, makes a section of the cornea, and cuts fairly out a piece of the iris. Of its merits as an instrument for thus forming an artificial pupil by central excision I can say nothing. For the sight of Dr. Stromeyer's instrument, and the pamphlet in which it is described, I am indebted to my friend Dr. Hamilton, of Edinburgh.

The chief objection to a needle-knife for making the section of the cornea in extraction, in which the needle and the knife do not lie in the same plane, but side by side, will be the thickness of the instrument, and the danger, that, by its thickness, it may press so much on the aqueous humour, and through the aqueous humour on the lens, and through the lens on the vitreous humour, as to cause rupture of the hyaloid membrane before the section is completed, so that just as the section is finished the lens and part of the vitreous humour bolt together out of the eye. This is a danger which attaches itself even to a common cataract-knife, if it be too thick, if the aqueous humour be not allowed to escape before finishing the section, and especially if the subject be old, and the hyaloid membrane weak. How much more likely will it be to occur, if, to the ordinary thickness of a cataract-knife, there is added that of a needle!

Some time after I had given an order to the cutler for a new needle-knife of the kind last mentioned, I met with an account, in the *Annales d'Oculistique* for April, 1843, of an instrument exactly similar, the invention of Professor Blasius, of Halle. Having made the punctuation with the needle, he follows the plan of Wenzel, dipping the point of the instrument into the pupil, and opening the capsule; he then effects the counter-punctuation, pushes on the knife, and completes the section. The lens often follows, we are told, without any pressure on the eye, and of course without the introduction of any second instrument for the purpose

of performing what is commonly called the *second* period of the operation. The supposed advantages of conducting the operation in Professor Blasius's way, and with his needle-knife, are set forth in a thesis by Dr. Van den Porten, entitled, *Dissertatio de Cataractæ Extractione, adjecta nova extrahendi ratione.* I may notice, that, as Professor Blasius always keeps the needle towards the iris, he requires two instruments, one for the right and another for the left eye, whereas the needle-knife with which I operated on Wylie answers for either eye.

Medical Gazette, Oct. 6, 1843, *p.* 27.

79.—ON PRESSURE BY CONDENSED AIR AS A SURGICAL REMEDY.

By Gustavus Krauss, M.D.

[There is no doubt that pressure, when properly applied, may be made one of the most powerful means of cure in the hands of the surgeon; but we cannot say how far the following methods of applying it will be practised by British surgeons. Dr. Krauss, however, seems sanguine of success.]

Modern surgery has shown the advantage of mechanical pressure in various diseases,—the cure of inflammation and enlargement of the testicle, of tumour albus, and of ulcers by this remedy, fully proving its value.

Up to this time pressure has been made with solid substances, such as straps of plaster, German sponge, plates of lead, &c. Last autumn I used the method of strapping in a case of enlargement of the testicle, but I met with some difficulty in the application; the straps, when put on tightly, caused unbearable pain, and, if loose, the testicle escaped; at other times, even when they seemed to fit well, the circumference of the testicle and scrotum diminishing, the testicle escaped soon after the straps had been applied.

Not unfrequently experiencing these inconveniences, and reflecting how they could be removed, it occurred to me that in many cases nothing but pressure by condensed air would answer the purpose. I have been using for some time, with great advantage, small air-cushions, to diminish the effects of pressure in the application of machines for the cure of club-foot, and this has led me to the idea whether it was not practicable to surround the swollen testicle with an air-cushion, so as to exercise a voluntary degree of pressure. I caused the air-bag to be made which I have the honour to present herewith to the academy. It consists of two bags, of air-tight material, one hanging in the other, and both narrow on the top, to surround the spermatic cord. Each bag is open on one side, from the top to the bottom, and they are attached to each other by their corresponding edges, so as to leave between them an air-tight space, accessible only by means of an

air-tight screw, fixed to the bottom of the outer bag. Along th side opening are holes to lace the double bag, previously to it being inflated, around the testicle, and it is subsequently fille with air by means of a simple air-pump. The inside bag is thu uniformly pressed against the whole of the scrotum contained i the air-bag.

On the swelling of the testicle decreasing, more air can easil be introduced, or, on the other hand, if necessary, the degree c pressure can be reduced by allowing part of the air to escape. B this means the patient can himself regulate the pressure, and acc dents, which were observed in some instances to arise from th application of straps, are not to be apprehended. To prevent th contact of bag and skin I place the testicle first in a linen com press, and use wadding or flannel, to prevent the scrotum fro being irritated by the neck of the bag. In several cases I applie pressure by condensed air with success, and was subsequently in duced to extend it to various other diseases.

First. I had an air-bag made in the shape of a cylinder, to re place the solid bougie, for dilatation of strictures in the rectum, c to be used after the operation of fistula ani. The air-bag, covere with oiled silk, is introduced when not filled with air, by means a small solid bougie, which is withdrawn, to inflate the air-cylind subsequently.

Second. A similar air-cylinder may be employed in blenorrh gia of the vagina, to prevent the contact of its walls. Dr. Rico proposed in these cases the use of an India-rubber cylinde pierced with holes.

Third. The solid pessary will be replaced with advantage by a air-bag, with screw of corresponding shape. The screw is fix in a kind of recess of the bag and turned by means of a key, t other end of which (latter) fits the air-pump. The air-pessa seems well adapted to maintain the abdominal viscera in the natural situation, and can be applied of larger dimensions than solid one, as it admits of inflation after being introduced.

Fourth. An air-bag of this description will be a more prop means for "tamponnement" in hæmorrhage of the uterus, th the mechanical remedies used at present, as it produces a mo uniform pressure, and is applicable with greater facility a speed.

Fifth. In diseases of the joints, where pressure is indicated a curative means, it can be applied with propriety by a sim air-bag, corresponding in size with the circumference of the joi The bag is so constructed that it can be laced around the pa when not filled with air, a voluntary degree of pressure bei produced by subsquent inflation.

Sixth. In perforation of the roof of the palate I expect th a simple air-bag, with screw, will form a cheap and useful obd rator.

Seventh. I am at present engaged in ascertaining how far pressure, by means of air or water-cushions (which latter produce a similar effect), can be applied for the cure of ulcers.

Further, I believe that many tumours which are at present considered to be eradicable only by the knife will disappear under the influence of pressure, provided it be applied in such a manner as to act with equal power upon all parts of the surface, and gentle enough neither to irritate nor inflame the parts in relation.

Time and opportunity do not allow me further to investigate the subject at present, I therefore conclude by directing attention to the application of air and water-cushions to diminish the pressure that artificial legs frequently produce upon the stumps to which they are applied.

Lancet, August 26, 1843, *p.* 765.

80.—USE OF CHLORATE OF POTASH IN CANCRUM ORIS.

By Henry Hunt, M.D.

Cancrum Oris has been described as a disease, as mild in character as the phagedæna of the cheek is severe. When, however, the former has been neglected, it frequently becomes so similar to the latter, both in appearance and in the extent of its ravages, that they have appeared to me to be one and the same disease, only differing in the degree of severity, but depending on the same morbid condition of the body. To prevent my being misunderstood as to the disease over which I have found this remedy to possess such power, I will briefly describe it.

It commences by small ulcers, either on the inside of the cheek, or at the point of junction of the mucous membrane of the cheek and gums, or in the gums themselves, separating them from the teeth: they are very tender and painful, and attended with profuse salivation; the breath soon becomes tainted with an offensive smell, not unlike the mercurial fœtor: if the decease is neglected, the ulceration goes on to destroy the gums, the teeth loosen and fall out, the alveoli are laid bare; at the same time the brown ragged ulcer spreads rapidly on the inside of the cheek, the integuments over the spot corresponding to the ulcer become hard, swollen, at first white and afterwards of a dull red colour, and shortly a black spot appears in the centre, which quickly spreads and destroys more or less of the cheek; and if the child survive, it is sadly disfigured, and not unfrequently loses the power of opening its mouth, from the unyielding nature of the cicatrix; but more

commonly, if the disease has extended its ravages to this extent, it sinks and dies.

In all cases that have fallen under my observation, it has been quite clear that the mortification of the integuments has succeeded to the ulceration of the internal parts; for when my attention has been called to the hard, swollen, and painful state of the cheek, as if that were the only disease, I have invariably found, on examination, the brown ragged ulcer on the inside;—the contrary, however, appears to be the case in the account given of it by Mr. James, in his work on inflammation, for he writes, "that the ulceration of the gums succeeds the swelling and hardness of the cheek," and Dr. Marshall Hall's description, in the Edinburgh Medical and Surgical Journal, agrees with that of Mr. James; for he states, "that children are liable to a particular affection of the face, which *begins* with pain, hardness, swelling, and slight erythematous redness, and terminates in the formation of a spreading eschar and ulcer." Whatever difference there may be in the commencement of these diseases, in their advanced and aggravated state they become so similar that it would be difficult, if not impossible, to determine in which of the two ways each individual case had begun.

The general appearance of the children afflicted with these diseases was extremely unhealthy, they were pale and cold, their flesh flabby and soft, and the secretions very offensive and unnatural. Before giving the chlorate of potash, when it has been possible to induce the child to swallow an aperient, I have given in the first place a dose of rhubarb and sulphate of potash with a grain of calomel; but generally the pain and tenderness of the mouth has been so great that it has not been feasible. I have therefore given the chlorate at once, and have waited a day or two, until the mouth has become less tender, and then have ordered the aperient.

The quantity of the salt that I have been in the habit of prescribing varies from twenty to sixty grains, according to the age of the child, in divided doses in twenty-four hours, dissolved in water; the beneficial effect is often observed on the following day, almost always on the second; the disagreeable fœtor soon lessens, the sores put on a healthy reparative action, the dribbling of saliva diminishes, and if there is mere ulceration it very speedily heals, if there is an eschar, it soon separates, and the sore granulates kindly. In no other disease did I ever see the beneficial effects of any medicine so soon manifested, as that of the chlorate of potash in these diseases. It is sometimes advisable indeed necessary, that the aperient should be occasionally repeated.

Medico-Chirurgical Transactions, vol. 26, p. 142.

81.—USE OF TER-CHLORIDE OF CARBON IN CANCER AND OTHER DISEASES.

By E. W. Tuson, Esq., F.R.S., Surgeon to the Middlesex Hospital.

The ter-chloride of carbon was first introduced into the Middlesex Hospital, and employed as a medicinal remedy by me some time since. It was ordered as a local application for a patient suffering under cancer of the left breast; one drachm of the ter-chloride of carbon was mixed with a pint of water, linen rags were moistened in this lotion, and applied to the tumour. The effect was immediate relief from pain, and the fetor from the discharge was completely destroyed, the patient being comparatively comfortable. The ter-chloride of carbon was then prescribed as an internal remedy, one drop in water three times a-day. This dose was increased to two and then to three drops; the effect was sedative, producing sleep for twenty-four hours; the patient waking occasionally, it was discontinued, and on questioning her some days afterwards as to what sensation she felt in the tumour, her reply was, that she could only compare it to "an endeavour to root a tree out of the earth." After this the cancer sloughed, and considerable pieces came away; the surface left is irregular and excavated, having a healthy granulated appearance, which is hard, to a certain extent, round the surface. The patient uses the lotion once a-day by injecting it upon the surface; she suffers no pain, and expresses herself as feeling very well.

I next employed this remedy to a large and elevated cancer in the groin of a patient admitted under my care in Stafford's ward. It produced the same sedative effect, relieved the pain, produced sleep, and removed the fetor from the discharge. The patient sleeps almost constantly; suffers very little; he is taking three drops in water three times a-day, and using a lotion composed of two drachms of the ter-chloride of carbon to a pint of water; within the last month the tumour has sloughed in parts. I noticed that after the application had been used for some time there arose an areolar inflammatory action around the tumour, of an erysipelatous character; this extended in the first case to about two inches, in the other case to four or five inches; the skin around was red, of a deeper colour towards the disease; when the finger was pressed upon this part it pitted, and a white mark was left for a second. As the redness round the disease increased, large veins became visible, passing in a radiated and tortuous direction from the disease to the surrounding healthy parts; the slough next took place, when all this appearance gradually diminished, and the surrounding parts became again in a healthy state, the skin assuming its natural colour. The same application was employed during these changes.

One curious and interesting fact may be noticed, which, I think, can be proved—that this chemical preparation has some peculiar effect in cancerous patients, and in some suffering from other diseases, acting as a powerful sedative, but when it has been employed in some other cases it had no such sedative effect. It is not my intention here to enter into a lengthened detail on this subject, as I intend to do so on some future occasion; but I wish to point out in what cases this remedy may be employed advantageously, and where its use has proved beneficial.

In gangrena senilis its local application will be of the greatest service; its antiseptic property is here remarkable, for where it was used by a patient, the fetor being so great that we could hardly approach the bed, we can now examine the foot without inconvenience. Opium failed here to give relief, either in removing the pain or procuring sleep. This remedy, employed locally, had immediate effects in producing both.

In sloughing ulcers, also, its local application will prevent the slough extending, and greatly assist in its removal, rendering the parts beneath of a healthy character, and, in cases accompanied with much pain, will give immediate relief.

In uterine affections, carcinoma, scirrhus, ulcerated surfaces, with profuse discharge, its use as an injection has produced the greatest benefit: where all other medicines have failed this has frequently proved a valuable remedy.

In neuralgic affections its local and internal exhibition will be of the utmost service. In some cases of severe sickness, dependent upon nervous irritability, after the usual remedies have failed, this has been successful to a pre-eminent degree. It allays nervous irritability, removes anxiety of mind, invigorates and raises the spirits, and where patients have one day been in a state of complete misery, they have on the following one become happy and joyful from its effects.

The ter-chloride of carbon* is a clear transparent fluid, smelling strongly of chlorine, as its name implies; it consists of three parts of chlorine and one of carbon; the dose from one to four drops in water two or three times a-day; one to two drachms to a pint of water, as an injection or lotion.

Lancet, July 15, 1843, *p.* 553.

[Mr. A. Ure states that the three ter-chlorides of carbon described by Berzelius in the Brussels edition of his work (vol. 1, p. 131), are all *insoluble* in water, and therefore cannot be the preparations alluded to by Mr. Tuson. He sent for a small quantity of the

* Prepared by Mr. Garden, Oxford-street.

liquid called by Mr. Tuson the ter-chloride, and thinks it is *chloric ether*. He does not however find the same beneficial results from its use as are described by Mr. Tuson.]

Pharm. Journal, Oct. 1, 1843, *p.* 170.

82.—ERECTILE TUMOUR IN THE POPLITEAL SPACE.

By Robert Liston, Esq., F.R.S., Surgeon to University College Hospital.

[Mr. Liston removed a tumour of this description, which had existed upwards of eight years, and which was at the time of the operation about 3½ inches in length.]

Mr. Liston entertained the opinion that it was a solid tumour, possibly of a fatty nature, and decided upon its removal. In this opinion Messrs. Quain and Morton coincided.

Operation, Jan. 6th.—The patient was placed on the operating table on his face. Mr. Liston then proceeded to make an exploratory puncture into the tumour. This was done by introducing a narrow bladed bistoury at the most prominent part of the swelling, nearly in the centre of the limb, and towards the upper part of the popliteal space, deeply into the mass, turning it half round on its axis, and then withdrawing it a little. This was followed by a stream of dark coloured blood projected with some degree of force, which, however, gradually became less. The blood still continued to flow copiously, but uninterruptedly, and without any jerking. On attempting to move the point of the knife laterally, it was found not to be loose, showing that it had not entered any cavity. The tumour diminished somewhat in size during the escape of the blood, which might have amounted in quantity to three ounces.

It was suggested by Mr. Quain that possibly the bleeding resulted from the external saphenous vein being wounded, as in a not uncommon variety it enters the deep vein much higher than usual, in which case its situation would not be far distant from the point of puncture. The bleeding from the opening was stopped by the finger, and a second puncture made on the outer side of the tumour. This was not followed by any bleeding. Mr. Liston determined on removing the morbid growth. A free incision was made through the skin to the extent of about four inches. It was not adherent to the deeper parts. The fascia was now divided to an equal extent, and the surface of the tumour exposed. It had much the aspect of a fatty tumour, but its size was evidently much less than before the commencement of the operation. The opinion that the vein had been opened was now seen to be incorrect.

The dissection was commenced on the outer side. The popliteal nerve was soon exposed, and the tumour, which was slightly adherent to it, carefully removed from it. After a troublesome dissection deep into the popliteal space, the tumour was found to be covered by muscle. The dissection was next proceeded with on the inner side, when it was soon found to be in like manner covered by muscular tissue, which was seen to be the semi-membranosus muscle embracing the tumour. During the manipulations necessary in this dissection the tumour has become much smaller than when first exposed on the division of the fascia. The substance of the semi-membranosus muscle was now cut into, and the morbid growth removed. The popliteal artery was not exposed in the course of the dissection. Only one vessel required ligature, and the patient was carried to bed, the wound being covered with lint dipped in cold water. A good deal of blood was necessarily lost during the operation, and the boy was somewhat faint.

About three hours after the operation, some hæmorrhage occurred from the upper extremity of the wound, proceeding from a vessel very deeply situated. As the patient was still in a state of faintness, no attempt was made to secure the vessel, but the wound was plugged with dossils of lint. This effectually stopped the bleeding, and it did not recur. The limb was placed in a semiflexed position, supported by pillows.

The lad gradually recovered from the state of faintness without the use of any stimulants. On the day following the operation he was doing well, and without bad symptoms of any kind.

Jan. 11th.—The lint having now become quite loose, it was removed, and the wound dressed with zinc lotion.

Jan. 12th.—Edges of wound slightly approximated by means of a roller lightly applied.

Jan. 14.—Wound granulating well, and diminishing in size. The boy was directed to straighten the limb as much as possible, to prevent permanent contraction.

Feb. 1st.—The wound has been steadily filling up, and nothing now remains but a superficial sore. This looks healthy, and is cicatrizing fast under the use of the lotion. The lad walks about the ward, and has the complete use of the limb.

Examination of the Tumour.—On making a section, the tumour was found to consist of a mass of most perfect erectile tissue as large as a hen's egg. This was completely surrounded by condensed cellular and fatty matter. One part of the erectile tissue was more condensed than the rest, possibly where the seton had traversed it.

Microscopic Examination of the Tumour. Under a low power it appeared to consist of an interlacement of columns having a fibrous aspect, covered by a smooth membrane, and representing in miniature the appearance of the musculi pectinati of the auricles of the heart. Thin valvular projections of the smooth investing membrane partially closed some of the openings between the columns.

Small vessels, filled with blood, were seen running in the substance of the columns. The intimate structure of these columns, examined under a higher power, was seen to consist of bundles of waved parallel filaments. The surface of the columns was covered by a delicate squamous epithelium resembling that found on the inner surface of veins. No fibres resembling those of elastic tissue could be detected.

The foregoing case is brought forward, as exhibiting (in the author's opinion) some points of interest. The difficulty of forming a correct diagnosis, it may perhaps be admitted was considerable. The tumour occupied an important locality. It had at one time pulsated distinctly, but on the other hand it had been punctured, and a seton had been passed through the morbid mass without any considerable flow of blood having taken place.

It communicated in some degree the feeling of an encysted swelling. The duration of the disease forbade the idea of its being a chronic abscess; but it might possibly have been a cyst containing glairy or other fluid. This cyst might have been supposed to be either single or multilocular. It was, however, thought to be a solid or sarcomatous tumour of some kind, and its removal was determined upon.

The exploratory punctures made in the operating theatre did not throw much light on the case, excepting in so far that confirmation was given to the notion of the swelling being solid. The second puncture must have somehow passed the mass of erectile tissue, and entered only the surrounding fatty matter.

The considerable decrease in the size of the swelling after the incisions was not a little puzzling. Besides this, the appearance of the tumour, covered on all sides by muscular fibres, added much to the uncertainty and difficulty of diagnosis in the case.

The bleeding during the operation itself was inconsiderable, and but one vessel required ligature after its completion. There was, indeed, some considerable hæmorrhage a few hours afterwards, but this was easily arrested by pressure, in consequence, unquestionably, of the disease having been removed or cut *out* and not cut *into*. The difficulties and dangers of the case would probably have been much increased, and the result might possibly have been very different, had the erectile tissue been encroached upon during the operation.

The case, it is presumed, is a rare and uncommon one. Erectile tissue is not often met with in parts deeply placed, notwithstanding what has been said and written by some observers about its occurrence in bones, &c. &c.

The author is not aware of its having been found in muscular substance. In the preceding case, however, it is more than probable that a small mass of erectile tissue had originally existed in the muscle, and had gradually become developed, till at two years of age it attained such a size as to attract attention.

Structural disease of any kind in muscle is indeed but rarely encountered; and it may, therefore, be permitted in this place to make reference to a case which occurred in the hospital practice of the author many years ago, in which the sterno-mastoid muscle was the seat of a tumour of a nature which some respectable pathologists would perhaps class with abnormal erectile tissue. It was certainly very vascular, but contained besides much cancerous looking matter, and was altogether what Mr. Pott might have denominated "a strange distempered mass."

Med. Chir. Trans., Vol. 26, p. 122.

83.—PROFESSOR ROSAS' OPERATIONS ON THE EYE.

Rosas is a dexterous and steady operator. In his extraction the patient is seated on a low stool, with the head placed obliquely to the light, and resting against the breast of an assistant who raises the upper lid, while the operator depresses the lower with the middle and fore fingers in the usual manner. He makes the downward section with a knife somewhat different from that of Beer, as originally used by him, and figured in his work in 1830. This knife is much shorter in the blade than Beer's; its posterior edge (or back) is also sharp and slightly convex. Holding it between the thumb and the index and middle fingers, the ring-finger bent into the hollow of the hand, and the little one resting on the cheek-bone, he introduces the point at a right angle with the cornea, (to prevent its catching in its layers,) a little above the transverse axis of the eye, and having entered the anterior chamber, he alters the position of the instrument by depressing its handle towards the temporal fossa, and thus brings the surface of the blade on the same plane with that of the iris. Having passed it rapidly through the chamber and made the counter-punctuation, so that a full quarter of an inch of the point has passed through the inner margin of the cornea, he then *draws* it slowly downwards and slightly upwards, and so completes the section. If the case is one of double cataract he makes the corneal section, and concludes the operation in the second eye before he extracts the lens of the first. He opens the capsule with a Langenbeck's needle, sharpened on its concave edge, and extracts the lens by gently pressing on the upper portion of the cornea with the flat of the needle.

The object aimed at in having the back of the knife curved is, to give it shortness as well as breadth, and thus avoid pricking the side of the nose; and its posterior sharp edge is to permit of its cutting upwards as well as downwards, and thus not only pass through the cornea with greater facility, but also enable the operator to extend the incision upwards if the original punctuation is too low. Another reason assigned by the inventor of this knife is that its blade by being sharp at both sides, and forming in its

section a compressed ellipse, permits less escape of the aqueous fluid in passing through the chamber, than the ordinary instrument.

In this manner Rosas operates with the most marked success; but in other hands, especially beginners, his method and instruments are open to many objections. The insertion of the knife at right angles with the cornea is very liable to transfix the iris, and by twisting the cornea itself, renders its further insertion less smooth and easy; and its cutting back endangers both sclerotic and iris, especially in turning its lower edge outward when completing the incision;—and when the iris happens to roll over the back of the knife, it cannot be pressed off with the same facility as when the posterior part is blunt;—should the point of the knife get entangled with the iris, he withdraws it and re-introduces it in another place; if the corneal opening is too small he enlarges it with a Daviel's scissors.

The operations of depression and reclination are much more common in the Viennese school than in England. In this clinique, these, as well as the operation for solution, are performed *per scleroticam*. In artificial pupil Rosas generally adopts the methods of Beer and Langenbeck, but removes the portion of iris drawn through the wound.

Medical Gazette, June 30, 1843, *p.* 511.

34.—ON CUPPING WITH THE AID OF HOT WATER.

By James Orr, A.M., M.D., Dunoon.

There are few medical instruments, however great the genius which has produced them, that are not susceptible of some improvement either in construction or mode of application.

The apparatus for cupping forms no exception to the remark, for they have been the subject of various improvements, some in the form of the cups, others in the manner of producing the vacuum. One operator requires, to produce a vacuum, spirit of wine and the lighted taper; another employs the exhausting syringe; while a third produces similar effects without either, only applying his mouth to the fundus of the cup to form a sufficient vacuum with a particular form of cup.

The few remarks I am about to make have reference not so much to any change in the form of cup as to its application and the more speedy abstraction of blood by the aid of hot water. The cup fitted for the hot water is somewhat different from the common form, and though in general use in many places, in others it is unknown. The form is similar to that in common use, which requires the spirit of wine, excepting that from the external and central part of its fundus there is a small tube extending from a quarter to an inch in length. At the distal extremity of the tube the opening is sufficient to admit the point of a small probe, and

over this small opening there is a bit of very pliable bladder, or skin covering the opening completely, and well secured with a thread round the neck of the tube. This bit of skin, as we have said, covers completely the external opening of the tube, and acts the part of a perfect valve during the operation. When the cup is applied to any part of the body requiring the abstraction of blood the tube is laid hold of by the mouth of the operator, and by means of suction (to use a common phrase) a vacuum to almost any degree can be produced; for, when suction is applied to the extremity of the tube, the little bit of skin is elevated to an extent that is sufficient to allow the air within the cup to escape, and when the mouth is removed from the tube the pressure of the atmosphere forces the bit of skin so close over the opening of the tube as to prevent entirely the ingress of the air, and so forms the part of a perfect valve, in allowing the air within the cup to escape during suction, and preventing its re-entrance, leaving the interior of the cup almost a complete vacuum. In operating with the form of cup so described its simplicity recommends it very much, as neither the spirit of wine, nor the lighted taper, nor the exhausting syringe, are necessary; and by their absence the operation of cupping is rendered much less formidable in appearance. and so the occasional frights and sudden alarms in patients, which are often produced by the burning of the spirit of wine, are avoided.

Having described the form of cup, I proceed to its application for abstracting blood by the aid of hot water. The incisions being made either with the common scarificators or common lancet, as may suit the convenience of the operator, take a cupping glass capable of holding from two to three ounces of water, into which put from half an ounce to an ounce of pretty hot water, say at about 120° of heat, and so apply it over the part from which you wish to abstract blood; then apply the mouth to the tube, and by suction the vacuum is produced in the manner above described, which, by the assistance of the hot water, directly applied to the scarifications, the blood flows freely, speaking comparatively. In cupping parts of the body which are highly vascular the hot water is less necessary, and may be dispensed with, but in operating on parts of less vascularity it will promote a more copious flow of blood in a given time than would otherwise take place, saving both the sufferings of the patient and the time of the operator. Although the effects of hot water are more manifest in operating on parts that are not very vascular, yet much time may be saved by its use when operating on any part of the body. The reader is not to understand, however, that the addition of the hot water will make the blood flow alike freely from every part of the body, because the flow of blood will be modified by the degree of vascularity in the part.

The temperature of the water used in this manner of operating may be many degrees higher than could be borne in ordinary

fomentation, for the insensibility produced by the tightening of the cupping-glass soon overcomes even a slight sensation of scalding, which the patient may feel at the moment the cup containing the hot water is applied. But the use of the hot water in cupping is not limited to that species of it in which blood is abstracted, for its farther advantage can be well conceived in the kind called "dry cupping." In cases requiring that operation you may have the combined effect of the dry cupping and the hot water, although it is a little paradoxical to speak of *dry cupping* when an ounce of hot water may be used, or less, or more, as may be thought proper.

From the easy mode in which this form of cup can be applied, I recommend it to those who have not tried it. It can be used at all times, and with the utmost delicacy, which cannot be affirmed of that form which requires the spirit of wine. It is no small advantage attending this peculiar form of cup, that in its application the degree of pressure can be increased by a nice gradation, in accommodation to the sensibility of the part to which it is applied, either with or without the hot water, and if thought proper it can be used equally well as the other form with the spirit of wine. Nor is it necessary to remark farther, that this form of cup, with the addition of hot water, is exceedingly convenient, and no less useful for promoting a copious flow of blood after leeches have been removed. As I said above, the degree of pressure can be accommodated to the sensibility of the part, and under ordinary circumstances the cup with the hot water applied to recent leech-holes, almost any quantity of blood may he obtained.

Lancet, May 20, 1843, *p.* 263.

85.—*Reduction of Femoral Hernia on Dr. O'Beirne's Plan.* [We have repeatedly referred to this plan of reducing a strangulated hernia, but as every fresh fact in corroboration of it is satisfactory, we subjoin the following case by Mr. Collambell, of Lambeth. It was that of a woman, æt. 51, ruptured 24 years ago. All the symptoms of strangulation being present, the taxis being used for a considerable time, and various other measures resorted to without avail, Dr. O'Beirne's plan was tried as follows:—]

I introduced, says Mr. Collambell, the elastic tube of the stomach-pump into the rectum, and passed it the distance of twelve inches. I then attached the syringe, and slowly injected two quarts of warm water. When half of that quantity had been thrown up a gurgling was distinctly heard in the tumour, and it gradually became less tense. Having injected all the water I removed the syringe, and allowed it to run off by the tube; I then reapplied the syringe and continued exhausting the air, when, after a few minutes, I had the gratification to find the hernia gradually subsiding, and, by keeping up gentle pressure, the con-

tents were returned into the abdomen. My patient immediately pronounced herself relieved; her countenance became cheerful and the sickness abated; she was ordered a brisk aperient of magn sulph. and aq. menth. pip. and a dose of calomel and opium. The bowels acted freely on the following morning, and she is now as well as usual.

Lancet, April 29, 1843, *p.* 155.

86.—*On Electro-puncture in the treatment of Deafness, depending on a paralysis of the acoustic nerve.* By M. JOBERT. The paralysis o the acoustic nerve may be produced by exposure to a current of air to too great a shock of the head, to waves of sound too violent, to affections of the teeth or of the gums. Electro-puncture has been already employed in these cases, but it had fallen into disrepute The author believes that he uses it in a manner more direct and more rational; here is his proceeding:—Stard's sound, he says, is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acu puncture needle is implanted in the membrane of the tympanum This being done, one of the conducting wires of a galvanic battery of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. I have used, in the beginning, eight pairs of the battery, then I got to ten, to twelve pairs; finally I have been as high as eighteen, and at present I have patients who have undergone several sittings and on whom I have acted with the entire pile, the trough of which contains forty metallic pairs. At the moment that the two poles are put in contact, there is a very painful shock in the ear and in the head, with convulsive motions; but this shock and this pain cease immediately. In a single patient the impression was felt during eight days, but it never extended beyond a slight pain which ceased of itself. It must be added, that the patients who were submitted to electricity in this manner, were, during some moments, as if stunned, and preserved some time after the experiment a bewildered look. The sitting was usually confined to a single shock when the patients were irritable; I have given two and even three shocks in people whose sensibility was obtuse, and who have been already submitted to electro-puncture. In general I allow eight days to pass between each trial. The author then relates four cases of well marked deafness, and in which the cure was complete; in the first after a single shock, in the second after two shocks, and in the third after two sittings, each composed of three galvanic shocks.—*L'Examinateur Medicale.*

Medical Gazette, June 2, 1843, *p.* 367.

87.—*On the Cauterization of Simple Ulcers of the Cervix Uteri.* By M. Lisfranc, Paris. The author greatly vaunts this mode of treating ulcers of the neck of the uterus, by the application of escharotics. That which he prefers greatly to all others, is the solution of mercury in an excess of nitric acid. The speculum uteri, he says, is indispensable. The escharotic is never to be applied otherwise than very lightly; not with a view to destroy the ulcerated or altered surfaces, but to modify their vital state—to produce a *new action* in the parts. A soft brush, or dossil of lint, is the proper tool for making the application, and the speculum is immediately afterwards to be filled with tepid or cold water—the abraded surfaces are to be washed clear of all remains of the caustic, which is only felt as peculiarly painful, when it is suffered to come into contact with the sides of the vagina.

London and Edinburgh Monthly Journal of Medical Science, July 1843, *p.* 649.

88.—*Chloride of Zinc in Phagedenic Ulcer of the Septum Nasi.* By Dr. Zwerina, of Vienna. A woman, aged 30, who had suffered from severe pain and enlargement of the right tibia, which was judged to be syphilitic in its nature, was at the same time affected with an ulcerous disease of the nose, which bye-and-bye perforated the septum, and threatened to destroy the whole member. The disease of the leg was arrested under the use of mercurial inunction, that of the nose resisted all the topical applications that were made to it—sublimate, arsenic, red precipitate, sulphuric acid, nitric acid, &c., until the chloride of zinc was called into requisition. One grain and a half of the salt was dissolved in one ounce of distilled water, and the scabs being removed, the sore was pencilled over several times a-day with the solution. At the end of a fortnight, a healthy granulating surface was found underneath the thick crust which now covered the sore, and this being removed from time to time, and the solution reapplied, at the end of five weeks, the cicatrix was perfect, and the patient well.

London and Edin Monthly Jour. of Med. Science, July, 1843, *p.* 650.

89.—*On Strabismus.* M Jules Guerin has published a second Memoir on Strabismus, devoted to a rational and experimental inquiry into the distinction between the optical and the mechanical forms of the disorder; a former memoir, published in the same journal the 3d April, 1841, having treated principally of the mechanical or primitively muscular form.

Optical strabismus, the principal subject of the present paper, the author defines as a consecutive of secondarily muscular deviation of the eye, consequent on a disjunction of the axis of vision and the axis of the eye. This disjunction may be produced in three ways: 1st, from an obstacle to the passage of visual axis along the course of the ocular axis; 2dly, by a change of relation

in the refracting media without alteration of their transparency; or, 3dly, by an insensibility of the retina at the proper point for the reception of luminous rays. The first is characterised by the squint existing only while the patient is looking at an object. In these cases the two visual axes, though no longer concurring with the ocular axes, converge towards one point.

A squint, then, existing only during active or intentional vision, cannot depend on permanent muscular contraction. A young person, aged 19, who had a moveable clot of blood in the posterior chamber, was observed to squint from the attempt to place a transparent portion of the medium opposite to the object looked at, and thereby to avoid the inconvenience produced by the presence of the clot in different parts of the chamber. As soon as she ceased to look at an object, she ceased to squint.

A disturbance in the relation of the refracting media the author thinks is the only way of accounting for some cases of strabismus which are produced suddenly after a blow, or a jarring fall on the seat or on the feet. The first effect of displacement is double vision; and the squint, at first temporary, lasting only during attentive vision, is gradually made permanent by the repeated endeavour to escape from this fatiguing symptom.

The third form, viz., from partial paralysis of the retina, is more difficult of actual demonstration, though its presence may be inferred by induction rigorous enough for practical purposes. Amaurotic patients, when endeavouring to distinguish a light, are seen to turn the eye in different directions where they know the light does not exist; they present the various surfaces, as it were feeling for it. Those in whom the paralysis is but partial contract a habit of subjecting to the influence of the rays the part that is most sensible.

The author believes that in no case of secondary optical strabismus will the texture of a muscle be found fibrous, and that in no case of primary mechanical muscular strabismus will such a fibrous state of the muscle be wanting. Where myotomy has been performed in cases of optical secondary strabismus, he believes that one of three things must have happened—either the case has not been watched long enough to ascertain the result, or a positive failure has followed, or the primary cause, whatever it may have been, has really been removed by the operation. The author adds a summary of the distinctive characters of the two kinds too concise to be materially abridged, but too long for our pages.

Med. Gazette, May 12, 1843, *p.* 254.

90.—*Removal of Blindness depending upon Palsy of the Iris.* Mr. Alexander Ure describes the case of a female patient who had come under his care at the Western Eye Dispensary in consequence of having been suddenly attacked with blindness in one eye. The pupil was dilated and immoveable, and she was wholly unable

to distinguish even light from darkness. Judging the case to be one of idiopathic palsy of the iris, the author proceeded at once to employ the method of cauterizing the circumference of the cornea by nitrate of silver, first proposed by Serres. The result was prompt restoration to sight. He pointed attention to the importance of discriminating accurately between palsy of the iris and amaurosis, since the treatment which is so efficacious in the one would be no less improper than useless in the other.

Mr. Arnott said he had met with a case similar to the one just detailed, in the person of an engraver of eminence, who, after working very closely, both by natural and artificial light, at a plate on which he was engaged, became affected with blindness in the left eye, the one with which he worked. He could see distant objects indistinctly, but could not perceive near objects at all with this eye. The pupil was dilated to its fullest extent, the iris being drawn close to the ciliary ligament, and was immoveable to light applied either to one eye or the other. On getting the patient to look through a little hole in a card he could read print with the affected eye, thus proving that the disease was not amaurosis, but that vision was prevented by the quantity of light which entered the eye and overpowered the retina. This patient was depleted both generally and locally, had various blisters applied, and was kept under the influence of mercury for two months, but without any decided benefit; the gentleman had relinquished his profession; it was now a year and a half from the commencement of his complaint, and he was much in the same condition. During the treatment he, Mr. A., had applied caustic round the edge of the cornea in the manner recommended by M. Serres, without much effect, but he had not applied it in the same energetic manner as the author of the paper, and after what he had heard he thought he should make a further and more decided trial of it.

Lancet, May 20, 1843, *p* 267.

91 —*Oil of Turpentine in Night Blindness.* By CHARLES KIDD, M.R.C.S., Medical Attendant of the Doonass Dispensary.—[In two cases of this description, in which the patients were seized with a total blindness every evening, the moment the sun set, although in other respects perfectly well, Mr. Kidd tried the whole routine of medicines without effect. The iris alone showed symptoms of disease; the rest of the eye was healthy. The iris was very interrupted and sluggish in its movements, and evidently very insusceptible of its usual stimulus, the pupil contracting very little even on the approach of the strong glare of the sun.

Being aware of the action of turpentine on this part of the eye, Mr. Kidd ordered the following mixture with excellent effect:—

℞ Ol. terebinth ; ol. ricini, āā. ℥j. ; mist. camphoræ, ℥iv. ; liquor. potassæ, ʒ i. ; træ. opii. gtts. x. Ft. mistura.

Half an ounce to be taken every night and morning. The patients were cured in a few days.]

Dublin Medical Press, May 10, 1843, *p.* 292.

[It is often difficult to continue the use of turpentine on account of its disagreeable nature. Bouchardat recommends the following formula :—

Take of gum accacia, ten grammes ; mix it with ten grammes of water ; add of white honey, fifty grammes ; oil of turpentine, fifty grammes ; carbonate of magnesia, q. s. Make a soft electuary.

The dose is from 2 to 10 grammes (36 to 180 grains) a day in unleavened bread. In some cases a little laudanum may be added.]

Medical Gazette, Sept. 22, 1843, *p.* 912.

92.—*How to make leeches bite.* The leech which it is intended to apply is to be thrown into a saucer containing fresh beer, and is to be left there till it begins to be quite lively. When it has moved about in the vessel for a few moments, it is to be quickly taken out and applied. This method will rarely disappoint expectation, and even dull leeches, and those which have been used not long before, will do their duty. It will be seen with astonishment how quickly they bite.

Medical Gazette, June 23, 1843, *p.* 480.

93—*Treatment of Fistula Ani by Iodine Injections.* By Charles Clay, M.D., Manchester. [This gentleman has found the use of the tincture of iodine useful not only in hydrocele, but also in fistula in ano. For serous cavities, as in hydrocele, ascites, hydarthrosis, &c., in all of which it has been used, the strength ought not to be more than one drachm of the tincture to ten drachms of water ; but in fistula it may be much stronger, even the pure tincture of the Pharmacopœia. Dr. Clay gives the following case to prove its utility :—]

Mrs. D——t, a lady whom I had been attending for some time in consequence of considerable constitutional derangement, was frequently depressed in her mind. I endeavoured to ascertain if any other circumstance, beyond those already mentioned to me, existed to account for this depression, when she told me she had suffered from fistula ani for seven years, but had not mentioned it to any one before, although it was of so long standing, and which had preyed upon her mind to a serious extent, as it was accompanied with great pain. On submitting to an examination, I found a fistulous opening, highly irritable, and discharging freely,

about an inch from the anus; the extent of the canal was about two inches to its communication with the rectum. I determined at once on using the iodine injection, and the following day injected the tincture freely through the canal of the fistula; the operation was followed by severe pain for a few minutes, with a less degree of smarting, itching pain, for two or three hours after. On the second day the injections were repeated, the pain following was equally severe with the first day. On the third day the discharge was evidently less; but she desired a little rest, which was granted: after this, she was dressed every other day for seven times, making nine dressings in the whole, when the canal was found perfectly closed throughout, and its mouth entirely healed; no other treatment accompanied, except a little aperient medicine occasionally. Thus a case of the most annoying character, and of seven years' standing (giving rise to much constitutional derangement), was entirely cured in less than three weeks, from the commencement, and up to this time (a space of some months) there is not the slightest appearance of a return of the disease. To give iodine injections a fair chance of success, they should be well thrown up by a good powerful syringe (made of glass, as the iodine affects the metallic ones), and the operator should be convinced that the fluid reaches the whole length of the canal, which in order to ascertain, he should for the first and for the second dressing, wrap a little tow or lint round a bougie, and pass it up the rectum before using the injection, when, if the fluid is conveyed properly, a portion will stain the lint on the bougie. In the case given above, the tincture could not be detected in the rectum after the second dressing.

Medical Times, July 29, 1843, *p.* 284.

94.—*Treatment of Tinea Capitis.* By A. L. Wigan, M.D.—Unless the quantity of hair on the head is exceedingly small and offers no obstacle to the complete examination of the skin, I insist on the head being shaved very carefully twice.

The reason is obvious; with a moderate quantity of hair you may be curing the parts which first attract notice, while others which have been infected are gradually progressing to a visible disease, and the cure is thus indefinitely prolonged. I do not, however, object to a little circlet of hair round the face, if there be no sign of disease apparent in it, and if it be carefully washed with hot common vinegar. This is a concession to parental vanity which may be safely made, and without which sometimes it would be impossible to obtain confidence.

My remedy is Beaufoy's *concentrated* acetic acid—pyroligneous acid, as it is still called—though no longer made from wood.

As a preliminary, however, I use the acid diluted with three times its weight of water. I call this the detector acid.

On its application a number of spots which looked perfectly healthy become red patches. They are indications that infection

had been taken, but had not gone through its stages, which period I believe (after great experience) to be eight days. This assertion is not lightly hazarded.

Having by this reconnaissance ascertained the numbers and position of your enemy, your course is clear. One vigorous assault, and there is an end of the matter. With a piece of fine sponge either tied to the end of a stick or held in a pair of silver sugar-tongs, I imbue each spot thoroughly with the concentrated acid for the space of three or four minutes, and the business is finished.

The only reason why it is necessary to see the patient again, is, that as a crust is generally formed, and an appearance of "worsening" takes place, the friends require to have their confidence renewed from time to time by explanation and encouragement. I have often applied the acid more than once, but it was always (I firmly believe) unnecessary, when the preliminaries above stated had been gone through properly upon the *shaved* and *tested* head.

The crust gradually grows up with the hair, which soon sprouts again if the eruption be recent, and as soon as a pair of fine scissors can be inserted underneath, it should be removed; but this should not be done prematurely, lest a sore place be produced.

When first proposed, a good deal of correspondence took place respecting the plan with those who had tried it without success. I found, however, that in *every case* they had either used a much weaker acid (it is sold of all strengths), or that they had continued the use of it long after the disease was cured, and thus produced that not very rare result, "*disease of the doctor.*" In the latter cases it was only necessary to discontinue the acid, and wash the head with warm water.

Medical Gazette, Sept. 15, 1843, *p.* 865.

95.—*Treatment of Hemicrania and Tic Douloureux by Cauterizing the Palate.* By M. Ducros. In the most intense hemicrania and in the most obstinate *tic douloureux*, whether fronto-facial or temporo-facial, the pain disappears instantaneously on the application of ammonia at 25°, to the palatine arch, by means of a [camel's hair] brush; the brush being allowed to remain on the part till a copious flow of tears has been excited. I have tried this for the last three months in a very great number of cases and the pain has always ceased. If the pain returns, a fresh application again produces a cessation of the neuralgia.—*Gazette Médicale.*

Medical Gazette, Sept. 15, 1843, *p.* 878.

96.—*Treatment of Tinea Favosa.* The mode of treatment of this obstinate disease, employed by the freres Mahon, although kept secret by them, has for a long time been followed with unquestionable benefit in the Parisian hospitals. The records of the

bureau central, for example, prove that by this method were cured, amongst others, three patients who had been unsuccessfully treated by the *calotte;* eighteen children dismissed as incurable from St. Louis; nine children, also, dismissed as incurable from the *enfans malades*, &c. Numerous other proofs might be adduced in favour of this method, a description of which we here subjoin.

The hair is first cut short, and the crusts then removed by emollient poultices. The head is now frequently washed with soap and water, and the inunctions and lotions continued until the scalp is completely cleaned. When this has been effected, the second stage of the treatment commences, the object of which is to remove the hair *slowly* and *without pain*, from all the points of the scalp, occupied by the favus. Every second day the ointment (No. 1.) is applied, and its use continued according to the obstinacy of the case. On the intervening days the hair is combed with a fine comb, to remove the loose hairs. This mode of treatment having been continued for about a fortnight, a depilatory powder (No. 2) is sprinkled through the hair once a week; on the following day the hair is combed, and the depilatory ointment applied as before. At the end of a month or six weeks a more active ointment is employed every day; and as the disease gives way the frictions are made only once a week, until the redness of the skin has entirely disappeared.

Although the formulæ of the remedies employed by the *freres Mahon* have been kept secret, yet their composition has been very nearly ascertained by experiment, and are supposed to be as follows:—

No. 1.—Slaked lime, eight scruples; soda of commerce, twelve scruples; lard, sixty-four scruples.

No. 2.—Wood-ashes, sixty-four parts; pulverised charcoal thirty-two parts.

Lotion.—Lime water, five hundred parts; sulphate of soda, one hundred and eighty-five parts; alcohol, twenty-four parts; white soap, ten parts.

—*From M. Duparc, on Cutaneous Diseases of Children.*

Prov. Med. Jour. May 27, 1843, *p.* 181.

97.—*Black Cataract.* M. Magne relates the following case of this rare and curious disease. A female, above sixty years of age, had labored under some affection of the eyes, for which she had consulted a great number of oculists. She was quite blind; the eyeballs were prominent; the sclerotica appeared to be thin; the iris well shaped, but perfectly immoveable; bottom of the pupil dark, as in the healthy state.

From these and other symptoms, the disease was supposed to be amaurosis; but a second examination of the patient was made in a darkened chamber, and with the aid of a candle, as recom-

mended by M. Sanson. The deep-seated images were absent, and the author accordingly declared the case to be one of black cataract, with adhesion of the iris. The diagnosis having been confirmed by M. Cruveilhier, the lens on the right side was depressed on the 25th March, 1843. The adhesions of the iris were numerous; but as soon as the capsule was lacerated, the dark colour of the lens became evident, and, on depressing it, several black fragments were detached.

On the second day after the operation the pupil appeared to be less contracted, the base being quite dark, but on the following day it was closed by white substance. M. Cruveilhier regarded this as the lens, which had come forwards, after having lost its dark colour in the vitreous humour. The operation was unsuccessful, and was, therefore, repeated in a fortnight; but the first touch of the needle showed that the body supposed to be the lens was, in reality, the capsule, which was extremely soft and elastic. A few shreds were removed with much difficulty, and the patient recovered but a very imperfect power of vision.

Prov. Med. Jour. June 10, 1843, *p.* 218.

98.—*Diagnostic Sign of Dislocation into the Ischiatic Notch.* Mr. Syme has recently narrated, in the "London and Edinburgh Monthly Journal," a case where the occurrence of the dislocation was determined by the presence of a particular sign, which appears to be of much importance in the diagnosis of a dislocation which Sir Astley Cooper has described as "the most difficult both to detect and reduce." There is less deformity and fixture of the limb than in any other of the displacements of the thigh-bone. "This obscurity (says Mr. Syme) is much increased by attempts to effect reduction, since a moderate degree of extension almost entirely removes the shortening and inversion, which are usually considered the most characteristic symptoms. I think it, therefore, of consequence to state, that there is another feature of the injury which, according to my experience, is never absent—always well marked—and not met with in any other injury of the hip-joint, whether dislocation, fracture, or bruise. This is an arched form of the lumbar part of the spine, which cannot be straightened so long as the thigh is straight, or in a line with the patient's trunk. When the limb is raised or bent upwards upon the pelvis, the back rests flat upon the bed; but as soon as the limb is allowed to descend, the back becomes arched as before. By attention to this symptom, I have been enabled to recognise the existence of dislocation into the ischiatic notch, when it had been unnoticed by others; and, on one occasion, when it was supposed that the replacement had been effected through powerful extension by the pulleys.

Prov. Med. Journal, June 24, 1843, *p.* 260.

99.—*Treatment of Vascular Nævus.* Prof. N. R. Smith, of Baltimore, has devised the following method of treating vascular nævus. He saturates a thread with a saturated solution of caustic potash. This is dried by a fire, and a needle being armed with it, the base of the tumour is transfixed with the needle, and the thread quietly drawn through the part. This is repeated in different parts of the tumour. Dr. S. states that he has now under care a case treated by this plan, and the tumour is rapidly wasting, without any distressing symptoms having occurred.—*Maryland Med. and Surg. Journ., March*, 1843.

American Journal of Medical Science, July 1843, *p* 260.

100.—*On the Use of Nitrate of Silver in Erysipelas.* By Mr. J. Higginbottom. [This gentleman considers that his mode of applying this substance in cases of erysipelas has been misunderstood, both by Mr. Erasmus Wilson and Mr. Nunneley, in their treatises on this disease. Mr. Wilson says—"Mr. Higginbottom recommends its employment in a weak solution; the strength of the solution may vary from 5 to 15 grains of the nitrate of silver to the ounce of distilled water." And Mr. Higginbottom says that Mr. Nunneley, in his treatise on the same disease, seems to have fallen into the same mistake when he recommends to be used "8 or 12 grains of the nitrate to one ounce of distilled water, or six grains in the same quantity of rectified spirit."* The following is the direction given by Mr. Higginbottom, who nowhere in his treatise recommends a solution of this substance:—]

The part is first to be washed in soap and water to remove any oily substance from the skin, and then it is to be wiped dry; the inflamed and surrounding skin is then to be moistened, and a long stick of the nitrate of silver is to be passed over the moistened surface, taking care that not only every part of the inflamed skin should be touched, but the surrounding healthy skin to the extent of an inch or more beyond it, in severe cases. The nitrate of silver may then be passed over these surfaces once, twice, thrice, or more times, according to the degree of inflammation; once in slight cases, twice or three times in common cases, and more frequently if quick vesication be required.

The use of a weak solution, as named by Mr. Erasmus Wilson, as an application in erysipelas would, I imagine, very soon bring the remedy into discredit, as it could not possibly succeed in extinguishing the inflammation or preventing its progress. In my

* Mr. Higginbottom is evidently mistaken with respect to Mr. Nunneley's paragraph. Mr. N. correctly states Mr. Higginbottom's practice of applying the solid caustic over the inflamed surface, and then goes on to state in his own opinion, that "a more convenient method, and an equally efficacious one, is to paint the surface over with a solution of the salt," of the strength above mentioned.

own practice, for the last eight or nine years, since the second edition of my essay, I have, for convenience, used a solution of the nitrate of silver, but of a very different strength to the one mentioned by Mr. Wilson, viz., eight scruples of nitrate of silver, with twelve drops of nitric acid, in one ounce of distilled water. This concentrated solution I have used in the same manner as I would the solid stick, according to the various degrees of inflammation, applying it with a dossil of linen tied on the end of a small stick, in preference to a camel-hair pencil.

The success of the nitrate of silver in external inflammation depends upon its strength and its proper application. The method of applying it by some practitioners appears to me to be quite trifling with the remedy. Instead of covering the whole inflamed surface and the surrounding healthy skin with the nitrate of silver so as to cover the whole of the inflammation, they simply apply it around the inflamed surface,—a mode of proceeding which has seldom the power of even preventing the spreading of the disease or the deeper mischief when the inflammation itself is unarrested. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread, but it is then generally much feebler in character, and easily checked by the repeated application of the remedy.

In severe cases of inflammation, in which there may be a suspicion of deep-seated suppuration, a poultice of bread and water, or a plaster of neutral ointment, may be applied after the nitrate of silver, to keep the surface soft for a future examination.

Lancet, July 8, 1843, *p.* 515.

101.—*Description of a new Knife for dividing the Stricture in case of Strangulated Hernia.* By T. Campbell Stewart, M.D. The instrument is composed of a small convex knife and a hollow canula or tube. The knife is concealed in the canula, which presents at half an inch from its extremity, a notch of about two lines in length, and one line deep, for receiving the membrane which constitute the stricture; this opening is closed at top by a steel blade, presenting at one end a small shoulder, and at the other a wire spring concealed in the handle. The knife, small and convex, is strengthened by a shoulder on each side projecting a little higher than itself, and protecting its edge from contact with the canula, into which it is introduced through an opening in the back of the handle. The object of having the knife movable, and convex, is to admit of its cutting *both ways*, and also of its being withdrawn, for the purpose of cleaning and sharpening.

Am. Jour. of Med. Science, April, 1843, *p.* 497.

102.—*On Prolapsus Ani.* By H. M'Cormac, M.D. [Dr. M'Cormac relates a very simple process by which this affection so troublesome when it exists in children, may frequently be remedied

He took the idea from the well-known operation of Dupuytren which consists of the following steps, "the patient being laid on his belly, the pelvis raised by pillows, the thigh separated, so as to bring the anus in view, the projecting folds separated by as many sulci, which lead to the anus, are severally laid hold of by a dissecting forceps with large blades, then removed with a pair of curved scissors held in the right hand. If the relaxation prove very considerable, the excision may be prolonged half an inch within the anus; but otherwise a few lines will suffice. This operation, which obviously is attended with little comparative pain or hæmorrhage, evidently remedies the excessive dilatability of the anus, and substitutes an accidental, closely-adherent tissue for one that is extremely loose. Patients generally do not go to the water-closet for the first few days; and the operation, it is stated, was successful in every case except one in which, from the struggles of the child, it could not be properly performed."]

Reflecting on the procedure in question, says Dr. M'Cormac, it occurred to me that the same result might in a measure, at least while the child was at stool, be secured by careful manual traction. I immediately stated my views to the intelligent mother; she entered into them at once, and promised, if possible, to carry them into effect. Accordingly, when the child went to the stool, the skin anterior to the anus was drawn to one side by means of the fingers extended around. The little girl submitted to this with some reluctance, and complained that she could not evacuate her bowels. She was encouraged, however; a stool was obtained; from that day and date now a month since, the bowel has not once descended. The stools, which previously were from two to four every day, have become much fewer, as well as of a more formed consistence and natural colour; while the child's health, spirits, and strength, are in other respects much ameliorated. There is now no prospect of the disease ever returning; the little girl requires comparatively little attendance, her mother, in fact, is only required to stand by, and in a short time, it is to be hoped, her onerous and anxious ministry will wholly cease.

As prolapsus ani is a very common affection coming frequently under the notice of every practitioner, and hitherto most difficult to remedy, this painless and bloodless mode of treatment, which, it is reasonable to suppose, would be equally efficient in other cases, in relieving the sufferings of helpless childhood, and lessening a mother's cares, seems deserving of attention.

Dublin Journal of Medical Science, July, 1843, *p.* 416.

103.—*Ergot of Rye in Retention of Urine.* By Wm. Kingsley, M.D., Roscrea. [In a case related by this gentleman there was pain and difficulty in making water for more than three months, when total retention took place, requiring the use of the catheter several times a-day. When other remedies had failed it occurred

to Dr. Kingsley to give him the ergot of rye, with a hope that acting so powerfully as it does on the muscular fibres of the uterus, it might have a similar effect on the muscular coat of the bladder. Ten grains of the powdered ergot, infused in two table-spoonfuls of boiling water, were administered three times a day. In six hours Captain B. began to pass his water during the day, only requiring the use of the catheter every morning, and after a few days but every second day. At the end of ten days the catheter was laid aside, the bladder having the power of evacuating its contents. The desire to pass water is more frequent than natural, and must be obeyed at once, otherwise it will come away without his having power to prevent it.]

Dublin Medical Press, April 26, 1843, *p.* 262.

104.—*Un-united Fracture Treated with Iodine.* [In a case of fracture of the tibia and fibula, where ligamentous structure only had united the bones for about two years, Mr. Scott made use of the following treatment with success. The heel had been drawn up by the muscles about an inch, which made the great toe point downwards. Permanent extension was first tried, but this failing, the tendo Achillis was divided, and a weight suspended by a bandage passed round the leg, immediately above the seat of fracture.]

Tincture of iodine (iodin. ʒj ; sp. rect. ℥j.) was locally applied daily for the course of a month, at the end of which time an extensive callus had formed, of considerable firmness. The frequency of its application was now diminished to two or three times during the week, but persisted in for three months longer, when he was taken down from the apparatus and placed in the horizontal posture. The foot had assumed its natural position, the only deformity being a slight bow inwards at the place of union. He remained in the hospital three months longer, and a few days before he left walked a distance of nine miles without inconvenience or difficulty, and with the assistance of a single crutch the use of which he soon dispensed with.

Lancet, Sept. 16, 1843, *p.* 877.

105.—*On Involuntary Seminal Discharges.* By R. H. Allnatt, M.D., A.M., F.S.A. [We published an interesting paper on this subject, by Mr. Phillips, in Retrospect, vol. VII., p. 164, in which the application of the nitrate of silver to the prostatic portion of the urethra as first recommended by Lallemand, is shown to be very efficacious. The subject has been taken up by other writers since the publication of that paper. Mr. James Douglas, of Glasgow, publishes a case in which the cauterization of the urethra, though very beneficial, did not cure the affection and for which an injection composed of one grain of opium, three grains of acetate of lead, and one ounce of mucilage, used three

times a day, and doubled in strength in ten days, was remarkably efficacious. (See "Med. Gazette," Sept. 29, 1843, p. 929.)

Another paper on the same subject is published by Mr. Allnatt, in which he hesitates to believe that these discharges are always seminal. He thinks that they are often more of a mucous character, and unattended with the pleasurable sensation accompanying the emission of semen. An abundant secretion of mucus may be afforded by the prostate, the glands of Cowper, and by the internal coat of the bladder when diseased. Mr. Allnatt has before directed the attention of the profession to the effect of creasote on the mucous membranes in fluor albus, gonorrhœa, and purulent otorrhœa, and thinks that it may be useful in these mucous discharges resembling semen. In the case of otorrhœa he used an injection composed of a drachm of creasote, the same quantity of liquor potassæ, and six ounces of water: to be frequently thrown into the tube. Mr. Allnatt accidentally discovered the value of the same remedy to restrain the bleeding from piles.]

Med. Gazette, Oct. 6, 1843, p. 18.

106.—*Success of Arsenic in Syphilis.* Dr. Sicherer, of Heilbrunn, cites the following case:—A lady having become affected through her husband with the virus of syphilis, had at length passed through the various stages of that disease until about to sink under final marasmus. The palate and the organs of deglutition were destroyed to such an extent that scarcely any liquid could be swallowed, and then only in a recumbent position. As a forlorn hope for other remedies had been unsuccessfully employed), Sicherer had recourse to arsenic, ordering Fowler's solution to be taken, at first, in doses of two drops, but gradually increased to thirty drops, three times a day. The remedy was continued until about two ounces of the arsenical solution had been taken, by which time a considerable portion of the impaired structures had been restored, and the faculty of deglutition regained; and after a period of ten years no relapse had been experienced.—*Haeser's Repertorium.*

Lancet, July 22, 1843, p. 579.

107.—*Treatment of Sycosis Menti.* By W. Dauverger. Of all the modes of treatment recommended for these obstinate affections, the following appears to have been the most useful in the author's hands.

The sulphate of iron in different forms is the most efficacious local remedy for the pustular inflammation of gutta rosea, and mentagra.

It is used in solution, either by bathing the part affected, or by applying linen dipped in it, or by sprinkling the ulcerated parts of the mentagra with a mixture of charcoal and sulphate of iron. This mixture need not be finely levigated, for it then forms a crust too easily, becomes lumpy, and is not easily removed by washing the beard. In spite of his previous opinions, M. Dau-

verger also tried a pommade of sulphate of iron, but was obliged to give it up. The following are the formulæ employed by him.

No. 1.—Sulphate of iron twenty-five grammes. Distilled water two hundred grammes. Dissolve.

No. 2.—Sulphate of iron fifty grammes. Distilled water two hundred grammes. Dissolve.

No. 3.—*Ferro-carbonic powder.* Sulphate of iron ten grammes. Charcoal thirty-five grammes. Powder and mix.

The author first treats the inflammatory symptoms with emollients; when he thinks them sufficiently reduced, he orders the patient to bathe the part twice a day with two glasses of warm water containing one or two spoonfuls of the solution No. 1. A quarter of an hour afterwards, he prescribes a local bath of an emollient decoction; and afterwards, if possible, the application of a poultice of the same kind. When no further improvement takes place under this treatment, he has recourse to No. 2, which is twice the strength of the former, and proceeds in the same way. The author employs general means of treatment at the same time.—*Gazette Médicale, Sept.* 9, 1843.

Medical Gazette, Sept. 22, 1843. *p.* 911.

108.—*Researches into the Local Causes of Deafness.* By Joseph Toynbee, Esq., F.R.S., Surgeon to St. George's and St James's Dispensaries. The researches of which this is a summary view, are in continuation of a previous paper contained in Vol. 2 of the Medico-Chirurgical Transactions. The principal practical conclusion to which they lead is, that the most prevalent cause of deafness is chronic inflammation of the mucous membrane which lines the tympanic cavity; and that by far the greater majority of cases commonly called nervous deafness ought more properly to be attributed to this cause.

The pathological conditions to which inflammation of the mucous membrane gives rise are divided in the paper into three stages.

In the first stage the membrane retains its natural delicacy of structure, though its blood-vessels are considerably enlarged and contorted; blood is effused into its substance, or more frequently at its attached surface; blood has also been found between the membrane and the membrane of the fenestra rotunda, and in very acute cases lymph is effused over its free surface.

The second stage is characterised by the following pathological conditions:—

1st. The membrane is very thick, and often flocculent. In this state the tympanic plexus of nerves becomes concealed, the base and crura of the stapes are frequently entirely imbedded in it, while the fenestra rotunda appears only like a superficial depression in the swollen membrane.

2d. Concretions of various kinds are visible on the surface of the thickened membrane. In some cases these have the consistence of cheese, and are analogous to tuberculous matter; in others they are fibrocalcareous, and exceedingly hard.

3d. But by far the most frequent and peculiar characteristic of this second stage of the disease, is the formation of membranous bands between various parts of the tympanic cavity. These bands are at times so numerous as to occupy nearly the entire cavity; sometimes they connect the inner surface of the membrana tympani to the internal wall of the tympanum, to the stapes and to the incus. They have also been detected between the malleus and the promontory, as well as between the incus, the walls of the tympanum, and the sheath of the tensor tympani muscle; as well as between various parts of the circumference of the fenestra rotunda. But the place where these adhesions are most frequently visible is between the crura of the stapes and the adjoining walls of the tympanic cavity; this was the case in twenty-four instances out of a hundred and twenty dissections, being a fifth of the number. These bands of adhesion sometimes contain blood and scrofulous matter.

In the third stage of inflammation of the membrane it becomes ulcerated; the membrana tympani is destroyed, and the tensor tympani muscle is atrophied. The ossicula auditus are diseased, and ultimately discharged from the ear, and the disease not unfrequently communicates itself to the tympanic walls, affecting also the brain and other important organs.

Medical Gazette, July 7, 1843, p. 542.

109.—*Blepharoplastie.* Dr. Baumgarten was consulted about a child, six months old, which had a large oval nævus maternus on the lower eyelid of the right eye, extending down to the cheek. Pulsations isochronous with the pulse could be both seen and felt, and as the period of its bursting could not be far distant, to judge from its appearance, Dr. Baumgarten determined to remove it by extirpation, and to replace the loss of substance by blepharoplastie. In effectiug the extirpation of the nævus, it was found that the vascular dilatations extended so deeply, that the orbiculus muscle was cut across, and the incisions penetrated into the cavity of the orbit. The hæmorrhage was less than might have been expected. The flap to cover in the large wound that had thus been made was taken from the temple and united to the vicinal parts by four sutures. In spite of the continual application of cold water, some swelling of the face followed, but soon subsided. Union by the first intestine took place throughout the part operated on by the third day, and by the fourth the last suture was removed. The wound of the temple suppurated freely, the edges, however, being drawn together, and the bottom filled with healthy granulations. In another week the loss of substance on the temple was replaced, and the cicatrices of the eyelid were scarcely visible.

A somewhat similar operation was performed by Ammon on an old man, labouring under cancer of the lower eyelid, with success as far as regarded the process itself; but the cancerous disease unfortunately returned, and the patient refused to submit to any further proceeding.—*Annales de Chirurgie, January*, 1843.

Provincial Medical Journal, April 29, 1843, *p.* 99.

110.—*On the Actual and Potential Cautery as Means of Preventing and Curing Phlebitis, &c.* By M. Bonnett, Lyons. The cauteries employed by the author are the *potassa cum calce*, the chloride of zinc, and the red-hot iron. The red-hot iron rapidly applied produces a very superficial eschar; the potassa cum calce acts much more deeply; the pain in regard to either is sharp, but speedily at an end, and the inflammation that succeeds is trifling. The chloride of zinc produces much deeper eschars than either the red-hot iron, or the potash and lime; the pain it occasions is severe and enduring, and the succeeding inflammation is considerable, and attended with the rapid clearing off of the eschars.

The author quotes a case of phlebitis following venesection, and four cases of severe constitutional disturbance following wounds received in dissection, which were treated by the hot-iron with immediate and complete success. As many as ten cauterizing irons were used at once in the case of phlebitis, the subcutaneous cellular tissue being found in a semigangrenous state. In the dissection wounds, the seat of the injury alone was deeply seared; the iron was elsewhere carried superficially along the course of the red lines.

The author has applied the same method to the treatment of hæmmorhoidal tumours and prolapsus ani. Of these diseases existing together, he gives four cases which were successfully treated, one, in part, by means of the potassa cum calce, the rest by the chloride of zinc. He has also found the caustic an effectual agent in treating varicocele.

London and Edinburgh Monthly Journal of Medical Science July 1843, *p.* 650.

111.—*Cure of Venereal Warts.* Francis states that two remedies which he has tried for the extirpation of veneral warts, have always perfectly eradicated them, namely powdered savine and a solution of lunar caustic; the first to be applied to the warts every night, taking care previously to wet them, in order that the powder may adhere to them. The quantity ought not to be more than will lie on the top of a good-sized horse-bean. Applied every night for a week or ten days, this remedy will, it is said, cure them effectually. Should this, however, not be considered powerful enough, the savine may be sprinkled every night, and on the following morning a solution of nitrate of silver (four grains to the ounce) may be applied. These two remedies Mr. Francis always employs, and has never found them useless.

Med. Chir. Rev., July 1843 *p.* 281.

MIDWIFERY.

112.—TREATMENT OF PUERPERAL DIARRHŒA BY DIACETATE OF LEAD.

By W. S. Oke, M.D., Southampton.

[Dr. Oke relates two cases of inflammation of the mucous membrane of the bowel occurring soon after parturition, in which the most obstinate diarrhœa was continued, in one case to a fatal termination, and in another for some time, notwithstanding the usual routine of practice by calomel and opium, catechu, morphia, leeches to the tender abdomen, fomentations, &c. The diarrhœa was frequent and exhausting, the stools were foul and thickened with slimy mucus, countenance anxious, eyes sunk, pulse 130, and sleepless. The diacetate of lead combined with opium was now commenced.]

A grain of the diacetate and a grain of opium were immediately given, and the same dose repeated every two hours whilst the diarrhœa required it; at the same time, the cretaceous mixture was to be given after every liquid stool, as before.

This treatment soon produced the happiest effect. From the moment the diacetate of lead was taken, the diarrhœa gradually subsided; her sleep returned, and in forty-eight hours the pulse fell from 130 to about 96 in the minute. The dose of the diacetate and opium was of course diminished, and the intervals of giving it protracted as the symptoms yielded to its use; in short, under the saturnine treatment she completely recovered.

When diarrhœa, as the result of ulceration of the mucous coat of the intestines, begins to take place, I know of no symptom more uncontrollable by any mode of treatment that had hitherto been adopted.

It is singular that certain preparations of mercury, combined with opium, so beneficial in ordinary cases of diarrhœa, and also in some cases of cholera, should so completely fail in diarrhœa associated with denudation of the villous coat of the intestines. A young man, a butcher by trade, had a long-continued diarrhœa of fæcal matter, mingled with sanies. There was no organic stricture that could be detected. As every possible means had been tried in vain, I resolved to bring the system under the action of mer-

cury, in the hope of causing the ulceration to heal. Accordingly, by means of the blue pill, combined with opium, he was kept in a state of ptyalism for a considerable time, but it had not the slightest effect on the disease.

My attention was first drawn to the efficacy of the diacetate of lead in diarrhœa by Dr. Graves' excellent work on Clinical Medicine, and it appears that his attention to it had been awakened by Dr. Bardsley, of Manchester. Dr. Graves, after having lost all confidence in calomel for the cure of epidemic cholera, thus writes (page 697):—"It was, however, a question of deep anxiety to me what I should select instead, or to what article in the materia medica I should have recourse, when so many had proved utterly valueless. About this period I happened to be called on to attend a case of obstinate diarrhœa, with my friend Dr. Hunt. The case was an extremely harassing one, and had resisted all the ordinary remedies. I advised the use of acetate of lead and opium in full doses; this was given, and I had the satisfaction of finding that the diarrhœa soon yielded. Before this period I had received a letter from that able practitioner and excellent man, Dr. Bardsley, of Manchester, directing my attention to the use of acetate of lead in large doses in that form of diarrhœa which precedes and accompanies inflammation of the glands of the small intestines."

The result of the second case above related—and a *very strong case it is*—enables me to bear testimony that the diacetate of lead is also an effectual remedy in acute puerperal villitis, associated with diarrhœa, and a pulse of 130 in a minute—a disease which no other remedy could combat, and which, in all human probability, would soon have destroyed the patient.

Prov. Medical Journal, Sept. 23, 1843, *p.* 524.

113.—*Rupture of the Uterus—Recovery.* By M. VAULPRE, M.D. The patient in this case was in her 19th year, and confined for the first time. Delivery was attempted by the long forceps, but in vain; the head of the infant had to be opened, and delivery was accomplished by means of the hook. In passing the hand into the uterus, a longitudinal rent was discovered, corresponding to the right iliac fossa, and from 6 to 7 centimetres in length. The hand, when passed into this gap in the uterus, came in contact with the mass of the small intestines. A month afterwards the uterus contracted, and the tear in its substance could no longer be perceived. The patient was alarmingly ill. She vomited, had hiccup, violent pain in the abdomen, &c. Nevertheless she did not die; on the contrary, after several days passed in a state between life and death, she began to improve, and finally recovered.

London and Edin. Monthly Journal of Med. Science, July, 1843, *p.* 651.

114.—*Case of Intermittent Uterine Hæmorrhage.* By M. Billeter. A woman 42 years of age. mother of 12 children, had been suffering for a month from uterine hæmmorhage, which came on every day, and for the removal of which every styptic and astringent had failed. When M. Billeter first saw her, she was exhausted and exsanguine, the abdomen was soft and depressed, but she suffered no pain. He was told that the discharge of blood sometimes appeared during the day, but always about two or three in the morning, that it continued some hours, and then ceased, to re-appear next day. For an hour before it commenced, the patient suffered from a sensation of heat in the head and limbs. She was ordered to take 10 centigrammes of quinine, and the ergot of rye, during the interval between the attacks. The hæmorrhage did not recur after the first dose of the quinine, but on the fourth day, considering herself cured, she did not take her medicine; the discharge in consequence returned, but ceased upon resuming the quinine. She was soon completely cured.

London and Edinburgh Monthly Journal of Med. Science, July, 1843, *p.* 651.

115.—*Pregnancy Two Years after Cessation of the Menses.*—"At a recent meeting of the 'Societé Medicale du Temple" M. Legros narrated the following case:—A married woman, mother of several children, ceased to menstruate at the age of forty-one. Two years afterwards her general health having become disordered she consulted M. Legros. She was then thin, sallow, and presented other symptoms which seemed to indicate a cancerous cachexia. She herself stated that she thought she was pregnant. M. Legros, considering that the menstrual function had been entirely absent for two years, and that its cessation had been accompanied by the symptoms which usually attend its final disappearance, thought he had, in all probability, a cancerous affection of the uterus to deal with, and prescribed an appropriate treatment. He does not appear to have examined the state of the internal organs of generation per vaginam, a most egregious error in such a case, as the neglect of this means of diagnosis rendered it next to impossible to arrive at a correct opinion of the state of the patient. A few months afterwards the woman was delivered of a full-grown child. She then confessed that on thinking herself safe, she had abandoned herself to a young man. M. Legros suggests that the excitement which attended this new *liaison* may have revived the functional vitality of the uterus, and this seems indeed to be the most rational view of the case.—*Gaz. des Hôp., Oct.*"

Lancet, Oct. 28, 1843, *p.* 116.

116.—*New Pessaries.*—Mr. Snow laid before the Westminster Society some pessaries which he had invented, consisting of sponge cut into a globular form and tied up in oiled silk in such a manner

that, when compressed, the air contained in the interstices of the sponge was displaced from the instrument, which was thus reduced in size, but gradually returned to its original dimensions when the pressure was discontinued. He said that, by this capability of being reduced in size, the pessaries were very easy of introduction; he had found them more effectual and create less uneasiness than any other kind which he had used; and as the oiled silk protected the sponge from all extraneous matters, they were calculated to be durable. He had got Mr. Read, Regent-circus, to make them for him.

Lancet, May 6, 1843, *p.* 191.

117.—*Cæsarean Section.*—A woman, aged thirty-one, who had borne five children naturally, was attacked with violent arthr i during her sixth pregnancy. The pelvis became so deformed that the finger could scarcely be introduced between the tuberosities of the ischum and the ascending rami, on either side; the pub also formed a very prominent angle, the sacrum projected much forwards, and the os uteri could not be reached. On the 27th of July, 1840, labor having commenced, and the contraction of the pelvic diameter being well ascertained, the Cæsarean section was determined on, and was performed in the linea alba by Dr. Arnoldi. The results were most fortunate; the mother nursed the child herself, and the wound healed by the beginning of September.

Prov. Med. Journal, Oct. 21, 1843, *p.* 60.

118.—*Neuralgia of the Urethra.* A woman, thirty-two years of age, mother of four children, suffered for eight months from pain at the lower part of the abdomen, with scalding on making water, and a constant sense of titilation at the orifice of the meatus. The pain became so severe as to prevent the patient from sleeping. The bladder was examined, but no sign of calculus found. Various remedies were tried without effect. Two issues, with the Vienna caustic, were now made over the hypogastric region. The patient had tepid baths, containing two drachms of the sulphate of potass, and some pills composed of hyosciamus and extract of lettuce. This mode of treatment effected a cure.

Provincial Medical Journal, June 3, 1843, *p* 201.

RETROSPECT.

In the discussion respecting the active principle of malaria we have endeavoured to give as impartial a view of the case as possible; and have presented to our readers either the recently published opinions on all sides of the question, or have referred to the works where they may be found. One of the most interesting papers on the subject is that published by Dr. Gardner, Professor of Chemistry in Hampden Sidney College, America. He shows from carefully instituted experiments that sulphuretted hydrogen gas exists in the stagnant waters and atmosphere of certain marshes where malarious diseases are prevalent, and that certain agents give activity to the exhalations arising from these marshes.

On account of the difficulty of procuring a sufficient quantity of atmospheric air to detect the presence of the gas, he prepared pure surfaces of silver and brought them into contact with the air and water in the suspected regions. Silver is one of the most delicate tests for sulphur and is not so liable to be attacked by the agents which act upon lead, copper, &c. The mode of preparing the silver for his experiment is detailed in the first article of this volume, and so delicate a test of sulphur is metallic silver, that it will detect it in a solution containing one part in three millions of water; and as a means of determining the amount of sulphuretted hydrogen in mineral waters, it is perhaps one of the best tests which we possess.

Dr. Gardner having prepared his silver plates (polished coins), exposed them to the action of the air and water of marshes in different localities. The polished coins were first perforated in a marked place so as to be recognised, next cleaned and dried, then carefully weighed, furnished with strings, and lastly, suspended in the places fixed upon. Thirty different coins were thus suspended in different places: some were soon stained, and others, as in the Buffalo river, were not affected for some time. Ultimately, however, most of them were more or less stained; and it was found that the shallow waters of marshes contained the most, and were the least amount of gas, the coins suspended in the latter sometimes requiring a month, and those suspended in the air even more time for discolouration, while those suspended over the stagnant marshes, would be affected in a week or even less. Dr. Gardner brings forwards some very strong facts and arguments to

prove the correctness of his own, and Professor Daniell's opinion on this subject; and although some very striking circumstances are alluded to on the opposite side by Dr. Morris Pritchett, Dr. M'William, and others, we are inclined to think that the two last named gentlemen have hitherto failed to overturn the arguments of their oppponents. (1. *)

We have to thank Mr. Erichsen for some valuable remarks on the use of arsenic in cutaneous affections. The indiscriminate use of this article in certain diseases of the skin, has no doubt frequently brought discredit upon it.

One great principle to be held in view in its use is never to administer it in the early, acute, and inflammatory stages of the affection. The solution of arsenite of potassa (Fowler's solution) and the solution of the iodide of arsenic and mercury (Donovan's solution), are the two preparations which are most frequently prescribed in this country; and the former is by far the more popular of the two. Different authors vary a little as to the dose of Fowler's solution which ought to be given; but most of them agree that we ought not to exceed 15, or at most 18 drops in the course of the day. Mr. Erichsen, however, begins with two minims of the solution twice a day, and increases the dose to 5, 6, or 7½ minims three times a day, beyond which, he says, it ought not to be carried, as its good effects will be more evident from small doses continued for some time, than from larger doses which have to be sooner relinquished. Some patients, however, are so excitable, that the smallest doses are inadmissible. Another good preparation is the iodide of arsenic, introduced by Dr. A. T. Thompson. The dose is the twelfth of a grain twice a day, to be increased to the sixth or the fourth of a grain three times a day. although these doses are seldom necessary. It is well to combine the extract of conium with iodide of arsenic, in order to sheath its irritating qualities, and prevent it from exciting too powerfully the mucous membrane of the stomach. By the addition of the biniodide of mercury, a compound pill may be formed, which resembles in its effects the liquor of the hydriodate of arsenic and mercury, and which has been found by Dr. A. T. Thompson very efficacious in lupus, and by Mr. Erichsen in some syphilitic eruptions, more particularly when of a squamous kind. A pill may be made containing one-twelfth of a grain of the iodide of arsenic one-sixth of a grain of the biniodide of mercury, and two grains of the extract of conium; to be given twice a day. The iodide of arsenic may be gradually increased to one-sixth of a grain, and the biniodide of mercury omitted at the end of a fortnight, or sooner, as it might affect the gums. The diluted biniodide of mercury ointment may in some cases, as in syphilitic psoriasis, be also applied externally at the same time. Arsenic seems to be

* The figures at the end of this and the other paragraphs in this Retrospective Summary, refer to the numbers of the articles in the present volume, where the subjects are treated of at length.

an excitant or stimulating tonic, acting chiefly on the digestive, nervous, and integumentary systems; and when the dose has been pushed so as to irritate any one of these parts, the medicine ought to be immediately suspended, or greatly reduced in strength. The time for prescribing arsenic in a cutaneous affection requires, perhaps, as nice a discrimination as can be exercised. Mr. Erichsen points out a mode of practice which will be generally serviceable in these cases. As it is in the chronic stages that the remedy is to be used, he first ascertains whether the affection will bear the topical application of mild stimulants, such as the ointment of the white precipitate, or of the nitrate of mercury diluted with equal parts of the spermaceti ointment, or a solution of the sulphuret of potassium in the proportion of about a drachm to the pint; and if any of these applications can be borne without increasing permanently the severity of the disease, the internal administration of arsenic may likewise be beneficial. In illustration of this opinion he adduces as an example that very common disease eczema, which, when in its acute stage, in which it will bear no other topical application than the most soothing poultices and fomentations, will infallibly be greatly increased in severity by the employment of arsenic, even in its most minute doses; but at a more advanced period, when it can bear topical stimulants, the same disease will be greatly benefited by the internal administration of this medicine. The diseases of the skin for which arsenic is recommended may be of very different kinds, but they all agree in this, that they are characterized by the presence of scales or scurf; and even when they do not belong to the order *squamæ*, they are usually but little benefited until they arrive at that stage in which they assume a furfuraceous or scaly condition. (2.)

We wish particularly to draw the attention of our readers to the excellent summary of opinions held by some of our best practitioners respecting the treatment of fever and several other diseases, written by Dr. Cowan, of Reading. His papers are already so much condensed, and contain so many excellent formulæ, that we can only in this way direct the reader's attention to them more particularly. They are found in our third article. (3).

Dr. Holland draws our attention to an ingenious contrivance to prevent the inhalation of that large quantity of gritty and metallic particles which cause so much pulmonary disease among the grinders in Sheffield. Many years ago a magnetic apparatus was contrived which attracted the metallic particles before entering the nose and mouth; but this was of no avail in attracting the non-metallic substances, and moreover the grinders would not be at the trouble to make use of it. Since that time another plan has been suggested and brought into practice, which seems likely to save the lives of thousands of these tradesmen, not only in Sheffield but also in all large towns where grinding or filing is carried on, especially among those mechanics who prepare the

different kinds of machinery for cotton, flax, and woollen manufactories. "A wooden funnel, from ten to twelve inches square, is placed a little above the surface of the revolving stone, on the side the farthest from the grinder, and this funnel terminates in a channel immediately under the surface of the floor; *or we may consider the channel simply as the continuation of the funnel*, in order to avoid any confusion in the explanation. The channel varies in length, according to the situation of the grinder, in reference to the point where it is most convenient to get quit of the dust. If we suppose that eight or ten grinders work in the same room, each has his own funnel and channel, *and they all terminate in one common channel, the capacity of which is perhaps twice or three times as great as each of the subordinate or branch channels.* The point where they terminate is always close to an external wall. At this point, within the general channel, a fan is placed, somewhat in form like that used in winnowing corn, and to this is attached a strap which passes upwards and over a pulley, so that whatever puts the pulley in motion, causes the fan also to revolve. The pulley is placed in connexion with the machinery which turns the stone, so that whenever the grinder adjusts his machinery to work he necessarily sets the pulley and the fan in motion. The fan, acting at this point, whatever may be the length of any of the subordinate channels, causes a strong current to flow from the mouth of each funnel, which carries along with it all the gritty and metallic particles evolved, leaving the room in which the operations are pursued, free from any perceptible dust. When the whole apparatus is perfect and in excellent condition, the atmosphere of the place is almost as healthy as that of a drawing room." (4.)

The bebeeru bark of British Guiana has been brought into notice as a substitute for quinine, by Dr. Maclagan and Dr. Rodie, who consider it to possess antiperiodic powers of considerable value. They have given it with success in ague and the more serious cases of intermittent as they occur in our colonies. The bark and seeds of the plant yield two alkaline bodies to which Dr. Maclagan has applied the terms *bebeerine* and *sisseerine* from the Indian and Dutch names of the tree. Dr. Rodie has found the sulphate of bebeerine equally as successful as quinine itself, and moreover it is not attended with any irritation of the stomach nor that alarming symptom of deafness and determination to the head which so frequently follow large doses of quinine. The sulphate of bebeerine may be given in doses of 10 or 12 grains during each intermission, and it will be found that from a scruple to half a drachm or a drachm will generally be sufficient for a common intermittent. (5.)

We referred to the introduction of matico into this country in a former volume. Dr. Jeffreys, of Liverpool, has exerted himself to obtain information as to its medicinal powers from a great many practitioners, and has published a very inte-

resting paper on the subject in the Transactions of the Provincial Medical Association. It evidently possesses considerable powers as an astringent; and will probably be found to be a valuable medicine in leucorrhœa, menorrhagia, epistaxis, catarrhus vesicæ, &c. The decoction or infusion may be made with half an ounce to the pint, and the dose three tablespoonfuls. The strength may be increased to an ounce to the pint. The opinion of Dr. Jeffreys is confirmed by the experience of Dr. Lane, of Lancaster, who has also written an interesting paper on the same subject. (7.)

We would draw the attention of our readers to the apparatus of a hot-air and vapour bath, contrived or improved upon by Dr. Martin Lynch. It is a very simple, cheap, and portable contrivance, and one which may be exceedingly useful in practice. The description is minutely given in our eighth article. (8.)

We are disposed to think with Mr. Richard Battley, that much of the virtue of medicines may be impaired by attempting to concentrate them too much, as for example in the preparation of quinine.

Whether this arise from the great adulteration in some of our more expensive drugs or from the process of preparing them in a concentrated form, we cannot determine; but one thing we are convinced of, that an ordinary and simple method of preparing a drug for use is often preferable to the more expensive and more fashionable modes, in more common use at the present day; and in giving this opinion, we do not even except the sulphate of quinine. We are supported in this view by the experience of Mr. Battley, with respect to this medicine, who says, that "it has ever been an object with him to preserve, unbroken, that natural union by which several active principles are often combined in the same plant:" and from long experience he thinks that no method of extracting the virtues of plants is equal to maceration in cold distilled water, which takes up all or most of their medicinal qualities. For this reason he prepares what is called "liquor cinchonæ cordifoliæ," with cold distilled water; and which we can recommend as a very good preparation of bark, and one in no way inferior, but perhaps superior, to the quinine.

By this process he obtains from 28 pounds of good yellow bark, from 5 to 6 pounds of concentrated liquor, containing about 10 ounces of quinine. It is only necessary to subpulverise the bark and macerate it from 4 to 6 hours in twice its weight of cold distilled water, repeating the process twice or at most thrice, and to concentrate the infusions over a water bath to sp. gr. 1200, and allow the liquor to deposit the gummy matter and so much of the tannin as it cannot retain in solution. (10.)

In an interesting paper by Mr. Barlow, of Oxford, he draws our attention to many of the excellent effects of cold, when applied to the skin, in stimulating the incident nerves, and thereby acting as a very powerful agent in the treatment of some diseases. Most of these effects may be familiar to all of us, but it is whole-

some to be reminded of practices and effects, which, sometimes from their notoriety, are apt to be overlooked by the regular practitioner. For example, a dash of cold water will often rouse the system from a state of syncope, and in coma succeeding to convulsion, the effect will sometimes be equally striking, even when the respiratory, circulatory, and cerebral functions seem almost extinguished. And there is every reason to suppose that some cases of coma which depend more upon functional than organic injury, are changed from temporary into permanent death, from no adequate stimulus being applied to the incident nerves. In many cases of narcotic poisoning, the sudden application of cold may be repeated time after time with advantage; the great source of danger consisting in the blood not being duly oxygenated through deficient respiration; the brain thus becoming doubly influenced primarily by the narcotic, and secondarily, by venous blood.

Mr. Barlow relates a case of this description. A child took a large quantity of opium; fearful coma was the consequence, accompanied by long pauses in the respiration and circulation. Cold water was dashed on the surface repeatedly, followed by friction, with the happiest results: "the nerves of the skin were made to play that part which under ordinary circumstances, the vagi nerves perform, (through the stimulus of carbonic acid) and so life was continued, and a perfect recovery ensued."

In poisoning by prussic acid and in congenital asphyxia the cold douche will be found a valuable auxiliary to other measures. It occasionally happens that a sudden alternation from cold to hot applications, and from hot to cold, will be more beneficial than a continuance in the one or the other, exemplifying what Dr. Marshall Hall says, "that it is not the mere application of cold, but the sudden application of *cold* to a *warm* surface, which is the effectual means of exciting respiration. It is the *sudden alternation.*"

As a means of producing contraction of the womb, it is too familiar to dwell upon; but it has not been sufficiently made use of as a stimulant to the expulsor fibres of the bladder, as is most interestingly illustrated by Dr. Currie, in a case of retention of urine, in which the patient's feet were placed on a cold marble slab, and cold water was dashed over his thighs and legs. The effect was instantaneous; the urine burst from him in a full stream, although the common remedies had been tried in vain. (11.)

It is very probable that many cases which have been related as phthisical, in which naphtha was found so beneficial, were cases of acute or chronic bronchitis, of more or less severity, in which many of the physical signs of phthisis might be present, but where the real disease was absent: and if this opinion be correct, we can then perceive the advantage which would result from the exhibition of naphthaline which will probably be found to be a valuable expectorant, clearing the air-cells and canals very efficaciously of

accumulations of mucus. When a little naphthaline is applied to the tongue, it causes a peculiar heat and pricking sensation, which extends down the throat and bronchial tubes, and, exciting a spasm of the latter, ends in inducing a cough. It may be used in the form of a syrup, composed of fifteen grains of naphthaline, suspended by a small quantity of boiling alcohol in about four ounces of syrup, of which the dose is a teaspoonful every quarter of an hour till expectoration is produced: or an electuary may be made, consisting of eight grains of naphthaline in half an ounce of any simple electuary, and the dose proportioned so as to give half a grain or a grain of the naphthaline every quarter of an hour as before.*

The dose of *naphtha*, as stated in Mr. Wilson's paper, was ten drops, gradually increased to twenty, three times a day; and in cases of chronic bronchitis we certainly think this remedy may prove valuable, but we cannot agree with either Dr. Hastings or Mr. Wilson in their opinion of its powers in the cure of phthisis itself. (12.)

In cases of poisoning by colchicum and other acrid or narcotico-acrid poisons, related by Dr. A. T. Thompson, he lays stress on the benefit to be expected from abstracting a large quantity of blood from the vicinity of the brain, from the temporal artery for example. The poison is circulating in the brain, and is exerting its effects more especially on that organ; by taking away blood, therefore, a considerable portion may be abstracted, and the sympathetic irritation may be considerably lessened, and time afforded for providing against the collapse. (13.)

Dr. Graves has very clearly explained the difference in hæmoptysis, when the blood comes from the bronchial or from the pulmonary arteries. The blood going to the lungs along the bronchial arteries being red, while that in the pulmonary is dark venous, it will be evident by the kind of blood which is expectorated from whence it originates. Dr. Graves has shown that when it arises from the branches of the pulmonary artery, it is in consequence of the direct effusion of blood from those branches which ramify on the air-cells, and that the blood expectorated has nothing to do with the bronchial mucous membrane or bronchial arteries; and that the blood may escape into the inter-vesicular pulmonary tissue, where, having no exit like the portion which is thrown out into the air-cells, it may remain. This constitutes pulmonary apoplexy. He does not allow that when blood expectorated is dark venous, it necessarily comes from the stomach, but correctly

* In the 12th article, which we extracted from the Lancet, we perceive this electuary is ordered to be made with *eight grains* of naphthaline to *half a drachm* of electuary, and the dose a *tablespoonful*; this is evidently an error, which we did not detect till the sheet had gone to press. The reader, however, will perceive that in making the *syrup*, 15 grains are mixed with 4 ounces of syrup, and the dose a teaspoonful, so that about half a grain would be the dose in ordinary circumstances.

shows that it may be equally dark and venous when arising from these pulmonary branches; and that, when the stethoscope is applied, the signs of disease of the lungs will often be evident enough: at the same time even blood from these vessels may be rather red, owing to its partial aeration. From these circumstances, when we find that in pneumonia the expectoration is tinged with dark venous instead of arterial blood, we may conclude that it is of a more dangerous nature than when the bronchial vessels only are implicated. When these last mentioned arteries give rise to the hæmorrhage, it is generally of a less dangerous nature and more scanty; although it occasionally happens that even when from this source it becomes alarming. One very important indication of treatment in cases of hæmoptysis is to relieve the congestion and arrest the further effusion of blood, by copious depletion; and the extent and promptitude of this measure will depend upon the fact whether the hæmorrhage is arising from the pulmonary or from the bronchial vessels. If from the former it will be more dangerous and extensive, owing to the blood plugging up and obliterating the ultimate divisions of the air tubes, perhaps to a great extent of surface; but if from the bronchial vessels only, this effusion will seldom be very extensive, and not nearly so dangerous as in the former instance, arising in phthisical cases perhaps rather from the congested state of the bronchial membrane than from ulcerative action implicating the vascular tissue. When free depletion has been adopted, according to the case, Dr. Graves relies chiefly on ipecacuanha given in doses of two grains every quarter of an hour, until there is some improvement, and then every half hour or hour until the bleeding stops. This remedy is to be preceded by a purgative enema and a saline cathartic. The ipecacuhana is recommended not only in these cases, but also in hæmorrhage from the bowels, and even in hematemesis in preference to the acetate of lead, which Dr. Graves employs only in those cases of passive hæmorrhage in which opium is indicated, and then in combination with the last remedy. We have tried this treatment with great success in our own practice, but have been equally successful with the tartarized antimony, except in those cases where the alimentary canal has been the part affected; and we suspect that it will be found that the same good effect will be found to arise from all or most medicines which have a nauseating influence on the system. (16.)

More cases have been published respecting the efficacy of gallic acid in hæmorrhage from the uterus, bowels, and other localities. In one case of menorrhagia, published by Dr. Stevenson, the woman was almost exhausted, and was greatly benefited by eight grains of gallic acid with a little cinnamon every third hour, which was continued for two days and then relinquished. In a case of hæmaturia in a boy 14 years old, who had been passing blood with his urine for several months, three grains with four grains of aromatic powder were given every three

hours for four days, when the discharge subsided, and did not return. M. Tissier, of Lyons, has been administering a new astringent preparation for similar purposes. It is prepared by digesting rhatany in sulphuric ether, by which he obtains a brown extract, soluble in water, and possessing an astringent taste when placed on the tongue. It is said to be particularly serviceable in cases of non-contraction of the uterus after prolonged labours and miscarriages; and in leucorrhœa, menorrhagia, &c, depending on a want of power and contraction in the tissues of the womb and vagina.

Professor Simpson has also published some interesting information on the use of gallic acid in some cases of menorrhagia. He gave it in doses of from 10 to 20 grains per day made into pills. (20.)

In the treatment of chronic hydrocephalus Dr. Hannay mentions the benefit which accrued from the application of a liniment composed of powdered ipecacuanha root—two drachms to about half an ounce of lard with two drachms of oil. The part is to be rubbed with this liniment for 15 or 20 minutes three or four times daily, and enveloped in flannels. This produces in about 36 hours very numerous and small papulæ and vesicles. The effect is not so severe as when the tartrate of antimony is used, and yet it is a very efficient counter-irritant, especially in young and irritable subjects; and also where the head affection has been caused by the suppression of eruptions and scabbed diseases of the scalp. (23.)

It will not be necessary for us to recapitulate those improvements and practical suggestions which will be found already condensed in the several short articles on practical medicine, and we will therefore hasten to sum up some of those interesting facts and remarks which the reader will find in the surgical part of our volume. We will, however, just remind the reader that he will find very interesting and practical remarks on the several subjects of *Indian hemp*, *treatment of croup with sulphate of copper*, on *volvulus* treated by the forcible injection up the rectum of a large quantity of thin gruel, regurgitation being prevented by pressure round the anus, on the *value of antimony in mania*, which is corroborated by the practice of Dr. Graves, of giving the same medicine in large quantity combined with opium in some cases of nervous fever,* on *compression* in *chronic hydrocephalus*, on the *treatment of diabetes* by giving large quantities of the sesquicarbonate of ammonia, and on a variety of other diseases and remedies which are already compressed into as small a compass as the most busy and fatigued of our readers could desire.

In recapitulating the treatment of dislocations of the astragalus, as described in Mr. Turner's elaborate and excellent treatise on the subject, we would premise that this bone may be displaced in eight directions, viz. :—1, forwards; 2, forwards, and inwards; 3, forwards, and outwards; 4, upwards, and outwards; 5, outwards; 6, inwards; 7, backwards; 8, outwards, downwards, and backwards.

* See Retrospect, vol. VII p. 6.

As a general rule, in the treatment of these cases, the bone ought to be replaced if possible. This rule, however, admits of some few exceptions. It is of great importance to distinguish between complete and partial dislocation of the bone, because in the latter case reduction is very possible, while in the former almost impossible, on account of the powerful approximation of the tibia to the os calcis ; and even if in the latter case the tibia and os calcis could be sufficiently separated to allow the bone to be replaced, it becomes very questionable whether or not the practice would be good, on account of the insufficient vascular connexions which we may be sure would result from the severe laceration previously experienced. In one instance only has a complete dislocation been partially reduced ; and it is evident that in such a case, if compound, the unreduced portion of the bone should be excised, to prevent the foot from becoming permanently fixed by the mechanical obstacle.

In the cases published of dislocations forwards, inwards, and outwards, simple as well as compound, Mr. Turner states that in many instances, the bone sloughed where extraction was not performed, but in all the instances of luxation backwards, with one exception, the bone scarcely seemed to act at all as an extraneous body, *i. e.*, it neither died nor did it excite any great amount of local or general disturbance.

In the dislocations backwards therefore extirpation of the bone is scarcely called for. In irreducible simple dislocations forwards, inwards, and outwards, Mr. Turner would not extract the bone in the first instance, but in most compound cases he would not hesitate to do so without a moment's delay ; at the same time he states that where the complete dislocation is simple, we may hazard the chance of allowing the bone to remain in its new situation, to be afterwards extirpated if necessary or left to slough away. In a case of partial, simple, and irreducible dislocation forwards, outwards, or inwards, the best practice, perhaps, would be not to interfere but leave the case to the resources of nature ; but in partial and compound or compound and complicated (reduction failing) excision, if practicable, of the protruded portion of bone should be performed ; but not in partial and simple dislocation without any external wound. When the displacement is complete and simple and cannot be reduced by moderate efforts, it ought to be left to nature ; and should the skin inflame and ulceration of the skin threaten, an incision may be made over the bone, which may then be extricated by the efforts of nature or art, according to circumstances. (63.)

Since our last notice of the operation of lithectasy, it has been performed by Dr. Wright, of Malton, and Mr. Fergusson, of King's College Hospital. By the former it was successful in an old man who was an unfavourable subject : with the latter it failed. This has drawn from Mr. Fergusson some practical remarks on the subject, from which we may perceive that, although he

cannot altogether disapprove of the operation, he looks upon it as doubtful whether it ought to supersede the more practised one of lithotomy, even in the cases for which it is said to be most adapted.

Mr. Fergusson will no doubt hesitate about relinquishing an operation in which he has been very successful, for one which has yet to be established by a sufficient number of cases. But from all the information which we have been enabled to gather on the subject, we think that if the cases are properly selected for lithectasy, and if the directions for its performance be carefully attended to, it will be proved to be even more succesful than lithotomy which has nothing to boast of on this point. In old subjects, with small stones, and where sufficient time is given to cause the dilatation, we think considerable success may be anticipated with much less pain to the patient. In Mr. Fergusson's case the incision along the raphé of the scrotum was about an inch and a half terminating about half an inch in front of the anus, from which point two incisions, each about three-fourths of an inch in length, were carried downwards and outwards. The point of the knife was then thrust into the grove of the staff a little in front of the triangular ligament. The edge of the blade was so applied as to divide the triangular ligament to a slight extent first downwards and outwards on one side, and then in a similar way on the other; the groove of the staff being then distinctly felt by the forefinger of the left hand, the metal point of an Arnott's dilator was placed within it, and slid cautiously into the bladder. The staff was next withdrawn, and the bag of the dilator was partially distended with a solution of gum arabic; the distention being continued till it caused pain. The dilatation was kept up by a succession of dilators till next day at nine o'clock, about nineteen hours, when the last dilator was found to be one inch and a quarter in diameter, a size sufficient to allow of the extraction of a stone of considerable size. The forefinger was then passed into the bladder, and the stone being felt a small pair of forceps were introduced, and the stone easily seized. It seemed, however, too large to pass readily; a larger pair of forceps were next tried, and then a hook, but still the stone could not be extracted. The forceps were again introduced, and on seizing the stone and employing some force it was split into fragments, which were readily removed. Now in all these proceedings we must say that more force and violence seem to have been used than in a case of lithectasy was warranted; it would have been more properly and safely applied in a case of lithotomy where the prostate had been already notched in a proper direction, so that laceration, if it did occur, would probably be extended in the right direction downwards and outwards. But one great principle in lithectasy is to be careful not to employ force in the extraction of the stone, except it be very gradually applied, in the same way as by the fluid dilator. In this case we think it would have been better

to have crushed the stone at once when it was found to be too large to be easily extracted, or to have resorted to the dilator once more, so as to increase the diameter of the orifice which we know could easily have been done. We make these remarks chiefly for the purpose of showing that this case of Mr. Fergusson's must not be looked upon as detracting from the value of the operation, for he himself candidly confesses, "that in this particular instance, the operation had not received every justice, far more force had been used than was in accordance with the principles on which it should be conducted," and, "he had applied as much force as he occasionally used in lithotomy," which was sometimes considerable. Mr. Fergusson is exceedingly candid in acknowledging his own errors, a sure proof that his reputation and skill were not likely to be injured thereby; and he also takes advantage of his experience in pointing out what ought to be done in future, viz., that when the stone is found to be large, it ought to be broken at once, as was done by Dr. Wright in his case, and that when this is suspected, a longer time ought to be occupied in the dilatation.

It seems very probable that when the stone is large it will always be better extracted by lithotomy than by lithectasy, for amongst other reasons the forceps can always be better manipulated when the wound, as in lithotomy, extends down alongside of the anus, and the forceps can be more readily depressed, than when these manœuvers are conducted near the angle of the pubes and, consequently, in the narrowest part of the space between the bones, a part which the experienced lithotomist is always careful to avoid. There is one point in Mr. Fergusson's case which is well worth attending to, and that is the triangular or X-shaped incision which was made. It will give more room than a single line, and will make the perineum more shallow, while from being in the middle of the perineum it will permit of an equal distention on both sides.

One of the most important questions on this subject is the length of time the dilatation should occupy. Nature is very slow in this respect, and we ought perhaps to imitate her example; at any rate there will be much less risk in dilating too slowly than too rapidly. In Dr. Arnott's paper, the reader will find many valuable suggestions on this interesting operation. (64.)

Since our last publication, more cases of extirpation of diseased ovaria have occurred; but none require much notice except the one of Dr. F. Bird. This gentleman has operated with success without making the very large section of the abdominal parietes adopted by Dr. Clay, Mr. Walne, and others. There are certainly many objections to the small peritoneal section, and although the large operation has been successful, there may be cases where a smaller incision will be sufficient without adopting the very small one which is now generally condemned. Dr. Bird is of this opinion, and in a case which came under his care

he adopted this middle course, making an incision of about four inches, and then emptying the sac with an elastic catheter, previous to its extraction. We cannot but think that Dr. Bird's remarks are very judicious, and that where a moderate incision will do it is unnecessary to extend it. There are few ovarian cysts that cannot be reduced in size more or less by drawing off the fluid through a catheter previous to the operation, and if by this means an incision of four or five inches is sufficient for all necessary manipulation, we see no reason why it should be extended to double that length. At any rate where, from the nature of the tumour, it is necessary to enlarge the incision, this can be done with perfect ease.

Since the publication of these cases, some attention has been paid to the diagnosis of different kinds of ovarian enlargement. There are solid growths or tumours of the ovaries, whether of a malignant or non-malignant character, which are occasionally attended with ascites, and have been mistaken for encysted dropsy. Dr. Kilgour, of Aberdeen, has published some excellent remarks on this subject, in which he adduces the valuable observations of Cruveilhier. This author furnishes us with two very important diagnostics. 1st. In ascites the liquid always occupies the most dependent parts, viz., the pelvis and lumbar region; whilst the small intestines floating in the fluid, correspond to the umbilical region, and the arch of the colon and stomach occupy the epigastrium. Percussion, therefore, elicits a dull sound over the hypogastric and lumbar regions; whereas, in encysted dropsy, the cyst developes itself anteriorly to the intestines which it pushes back, so that here the tympanitic sound does not exist. In ascites the fluctuation is more decided than in encysted ovarian dropsy. 2d. In ascites the neck of the womb is in its proper place, while in encysted ovarian dropsy it is actually drawn upwards, so that it is difficult to reach it; the pelvic cavity being also in some measure filled by the tumour; and the general health is often good; while in ascites this is not the case, anasarca also often accompanying it.

If a solid ovarian tumour co-exist with ascites, it may generally be known by its *mobility;* it moves up and down in the fluid, striking the finger exactly like the child in utero, in what is termed the *ballotement.* In the encysted dropsy, if a solid tumour is present, it is fixed; it is outside the cyst or bag of water, or forms part of the wall of the cyst, and cannot readily move about. But we apprehend that in these as well as in most, if not all the diseases of the womb and contiguous parts, we shall find Dr. Simpson's *uterine sound* or *bougie* one of the most important means of diagnosis which has lately been brought before the public. To those who are not accustomed to the manipulations which are frequently called for during parturition, it may appear that any interference with its internal surface, with such an instrument as that used by Dr. Simpson, is an unwarrantable proceeding. But

we can support the testimony of Dr. Simpson and Dr. Cumming as to the harmlessness of such an operation, by our own experience, which has been, perhaps, second to very few in the North of England.

In diseases of the womb and its appendages, we have only been able hitherto to extend our physical examination to the neck and lower portion of the body. If the womb were very large, we might perhaps feel the fundus through the walls of the abdomen but from its mobility and low situation, this would be of little service; in short, we are constantly in doubt when examining any tumour in this region, whether it be an enlargement of the whole mass of the womb or a distension of its cavity, or a morbid growth; and if the latter, whether the growth be seated in the womb itself, or in one of the ovaries or other neighbouring parts. To assist in the diagnosis of diseases of these parts, Dr. Simpson has been in the habit of using a metallic *uterine sound* or *bougie*, of nearly the size and shape of a small male catheter, which is to be introduced into the womb and manipulated in the way which we will describe. It is particularly useful when we want to ascertain the state of the fundus, body, and cavity of the womb, and also when any particular solid tumour or fluid cyst is connected with that organ. It is provided like the common male sound with a flat handle, and terminates in a rounded knob or bulb. Its stem is thicker at its upper part, and tapers gradually from the knob to the handle. By being thin next the handle, it allows of more extensive movement in the mouth and neck of the womb, and its increased thickness at the other end gives it strength. The stem is about nine inches long, and graduated so as to enable us to measure the depth of the parts. In introducing this bougie the patient may be placed on her back or left side, and having felt for the os uteri, the practitioner can easily glide the instrument into the womb, the internal surface of which, when in a healthy state is not more sensible than that of the vagina, so that when any severe pain is felt, it may be considered as indicative of some morbid condition. When the instrument is in the womb, the practitioner can give that organ sufficient resistance for its exploration by the fingers, and he can alter its position as he pleases. He can thus fix the fundus, and even move it about, so as to enable him with his other hand on the abdomen to examine its external surface and walls, and to ascertain what connections any other tumour may have with it. The great mobility of the uterus is well known. Its position is changed by many of the movements of the bladder and rectum: it may be drawn down by instruments till the cervix reach the external parts; and therefore the uterine sound will enable us to move it about in rather a startling manner. The instrument being metallic, can be bent to any shape, so that when we want to bring the fundus uteri more immediately under our fingers in our hypogastric examinations the extremity should be bent upon its stem at as nearly a right

angle as the conformation of the genital canals admit, and, after being introduced, its handle should be well retracted towards the perineum. By this proceeding the body and fundus of the womb will be more easily and fully turned forwards.

This mode of examination will also be particularly valuable in the early stages of ovarian tumours. The ovary lies behind the womb, so that if the sound shows the tumour to lie on the *anterior* surface of the uterus, or in other words, if the uterine cavity runs up the posterior surface of the morbid mass, the disease may be considered as certainly not ovarian. This remark will only apply to those cases in which the tumour is still not so large as to have passed out of the pelvic cavity and become abdominal. (67.)

While we are on this subject, we may say that according to the investigations of a writer in the British and Foreign Medical Review, there is too much reason to suspect that the statements of Dr. Clay are not altogether impartial; and we must confess that since the different cases alluded to by this gentleman, and others which he has omitted to notice, have been minutely examined, they do not bear out the conclusions which he has come to respecting either its legitimacy or success. We have not room here to go over the subject, but would strongly recommend those who are about to undertake the operation to read the article at length in Dr. Forbes's Review, where all the cases are particularly referred to. We understand, however, that Dr. Clay has several more cases to publish, and we shall endeavour to give a candid report of them when they appear. (65.)

The opinions of medical men, as to the source from which bones are repaired after necrosis, have been divided between the soft parts and periosteum on the one hand and the bone on the other. Bone may be deposited in most parts of the body, and also by the periosteum and soft parts in the neighbourhood of bone; but it does not seem probable that these are the efficient agents in the process when any extensive formation of bone is required. It seems more probable that this is accomplished by bone, and especially by the epiphyses in the long bones, after certain dead portions have been extracted Hence when no epiphysis is present, as in the cranial and other flat bones, we perceive little effort to be made for the renewal of any displaced portions. So great is this power of reformation in the long bones of young people that in a very interesting case related by Dr. Lawrie, of Glasgow, almost the entire tibia, with the exception of the epiphyses, was removed and completely renewed, the leg becoming as useful as ever. In a previous case in which amputation above the knee had been performed Dr. Lawrie perceived, on inspecting the amputated limb, that the epiphyses at each extremity was throwing out ossific matter with great energy; and if time had been given and the health of the patient had held out, the tibia might have been completely renovated after the removal of the old portions. It was this circumstance which led him to

rely on the power of nature in his second case; and he was not disappointed. This, however, is not always to be relied upon, for in a case under puberty, related by Mr. Fergusson, the anterior half of nearly the whole tibia separated by necrosis without any reproduction of bone; and although the skin cicatrized the limb gave way under the weight of the body, and bent so much that the patient requested amputation to be performed. The cases, however, of Dr. Lawrie are exceedingly interesting both in a physiological and a practical point of view. One case shows that the deposits of bone had extended from the epiphyses of the knee and ankle, so as nearly to meet in the middle of the leg, and, if time had been allowed, they would have done so. The periosteum was separated all around from the dead shaft, and there were but few deposits of bone from either of these parts; they arose chiefly from the epiphyses. Several other cases of the regeneration of the long bones will be found in Mr. Cooper's Surgical Dictionary, but none more interesting than these cases of Dr. Lawrie. (66.)

In our last Retrospect we referred to the cases of aneurism which had been cured by partial and interrupted compression of the vessel. This is certainly one of the most important improvements in surgery which we have lately referred to. Since the time of Hunter the simplicity introduced into the treatment of aneurism by tying the vessel seems to have prevented the simpler method of compression from being often tried, more especially since this compression was generally applied, to the great discomfort of the patient, immediately upon the tumour, and the entire limb was occasionally compressed at the same time by a bandage. Valsalva's treatment was often conjoined, viz. perfect rest in the horizontal posture, very low diet, and frequent bloodletting. Various methods of compressing the artery have been from time to time adopted, but the success has generally been so partial that all modern surgeons till the present time have rather discouraged any attempts of this kind: partly owing to the imperfect construction of the instruments, and partly from a mistaken theory respecting the mode in which pressure acted or from ignorance of the exact amount of pressure required thinking that it was necessary completely to interrupt the current of blood in the vessel; whereas this last circumstance is most likely to retard the cure of the disease, as it must in some measure cause obliteration of the artery at that part to which the pressure has been made. A partial current, however, through an aneurismal sac has been found to lead to the deposition of fibrin in its interior, and to cause it to be filled and obstructed: the fibrine becomes entangled in the parietes of the sac in the first instance, and this goes on increasing until it becomes filled. In all these cases Dr. Bellingham recommends Valsalva's treatment above mentioned, to be conjoined. (68.)

Mr. James, of Exeter, brought before the meeting of the Provincial Medical Association at Leeds several cases in which

the severe contraction after burns had been considerably relieved by a regular system of extension. Dr. Mutter, of Philadelphia, relates several remarkable cases in which the old cicatrices were entirely dissected out, and a fresh and healthy portion of the neighbouring skin introduced in their place. But even this, although a bold and in many cases a successful operation, will sometimes fail. (See Retrospect, vol. vr., article 51.) These remarks more especially apply to cicatrices of the neck. Mr. James's treatment consists in dissecting the hardened cicatrix from the neighbouring parts and covering the large exposed surface with moistened lint, and bread and water poultices confined by a paste-board collar, until suppuration is freely established. He then applies what he calls a screw-collar, by means of which he can elevate the chin and keep it at any particular degree of elevation till a fresh cicatrix has formed. (70.)

Mr. Spence, of Edinburgh, has pointed out an important omission, by different authors and experimenters, on the process which nature adopts, after the application of a ligature, to close the divided ends of an artery. The use of the external coagulum and the deposit of coagulable lymph has never been insisted on as particularly essential to the success of the process. While all writers are now convinced of the utility of the divided internal coat, many of them disagree as to the use of the lymph or coagulum outside the vessel, some, as Mr. Allan Burns, supposing that it is necessary, up to a certain stage of the process, viz., until by its pressure it shall have excited such a degree of irritation as to give rise to adhesive inflammation between the opposite surfaces of the internal tunics of the vessel, to a greater extent than the presence of the ligature alone could produce; others, as Jones, Travers, Guthrie, &c., look upon the clot as merely an adventitious circumstance, which, when it takes place, may assist, but is not essential to the completion of the process. Now although these opinions are more or less correct, we think with Mr. Spence that sufficient stress has not been laid upon the changes which take place outside the vessel. If the changes are attentively observed, it will be found that on the 13th day, when the ligature has fairly come away, the lymph has assumed the appearance of a firm connecting medium uniting the divided ends of the vessel, not unlike the exuberant callus in a fracture; on the 28th day this lymph has become firmer, and the vessel has the appearance of a firm impervious cord. So that we may perceive that this deposit of lymph is not only useful in connecting the divided ends of the vessel, and thus supporting the adhesion of the internal coats at the period of separation of the ligature, but by its pressure it will also diminish the calibre of the vessel, and thereby lessen the impulse of the blood in the neighbourhood of the ligature. The conclusion becomes more obvious when we remember the success which has lately attended the application of a ligature at a very short distance from the point where a large branch was given off, as in the case of Dr. Bellingham, where it was applied

to the external iliac within half an inch of the bifurcation of the common iliac. (See Retrospect, Vol. vii., p. 161.) (71.)

In those affections of the brain which have resisted all ordinary remedies, in paralysis, impending effusions, convulsions, erysipelas of the head and membranes of the brain; in the very advanced stages of fever, &c. Dr. Wallis, of Bristol, has used with success in many cases, a very severe mode of counter-irritation, first brought into notice by Mr. Smith, senior surgeon of the Bristol Infirmary. This is done by making a longitudinal incision or issue on the calvarium. The head is first to be shaved, and the scalp put on the stretch by the operator's left hand; the incision is then to be commenced between the thumb and fore-finger as far back as the lambdoidal suture, and the scalp is to be divided entirely through at once, and the incision carried directly along the sagittal suture, as far as the hair grows on the scalp. Care should be taken that the scalp be divided entirely and perfectly through, so that the edges of the wound will separate so far as to permit a dossil of lint, as thick as two fingers, well soaked in spirit of turpentine to be introduced. If the scalp is not thus completely incised the arteries will not be sufficiently divided to cause contraction, and they may bleed to an inconvenient degree. If the hæmorrhage is not desired it may be checked by pressure, or the actual cautery applied for a moment to the arteries. When the dossil of lint has been introduced into the wound, adhesive straps may be applied till the next day, when the fear of hæmorrhage will have subsided. The lint and straps being removed, a poultice may be applied, and if suppuration be not inclined to come on by the second or third day, a little spirit of turpentine may be rubbed up with some unguentum resinæ flavæ, or even a little blister ointment may be used. In a few days a double row of peas, seventy or eighty strung together, may be used to prevent granulations filling up the issue, a point rather difficult to accomplish, especially in chronic diseases where the issue is required to be kept open three or four months: indeed this cannot be done without the repeated use of caustic. We confess that this seems to be a most severe proceeding, and we should not have ventured to publish the account if the practice had not been recommended by such good authority, Of course such a remedy ought seldom or never to be used in the first onset of a disease, and in acute cases the greatest discrimination will be required to use it at the proper time. (72.)

The case of Mr. Brunel, in whose windpipe a half sovereign was accidently lodged, has given rise to one or two practical suggestions which on future occasions will be found valuable. Although the symptoms in such a case may not be immediately dangerous, disease of the lungs would very probably take place sooner or later, and therefore it would be always wise to take the necessary steps for the removal of such a foreign body without loss of time. The opening in the trachea in Mr. Brunel's case answered one important end, viz., it enabled the patient to be

inverted without giving rise to violent symptoms of suffocation, which took place on this change of position before this orifice was made. From this circumstance Sir B. Brodie comes to the conclusion that in all similar cases where it is necessary to invert the body for the sake of dislodging a foreign substance from the lower part of the windpipe or its bifurcations, tracheotomy ought always to be previously performed. This will always act like a safety-valve to prevent suffocation, and will also enable the practitioner to manipulate with the forceps or any other instrument that he may wish to use. At the same time it will be seen from the experiments of Mr. Erichsen that such an opening in the trachea does not materially diminish the irritability and contractility of the glottis; and for this reason he has suggested an instrument which will answer the double purpose of intercepting any foreign body which might fall downwards towards the larynx during the inverted position of the body, and of a scoop so as to extract the substance when it is caught in its net. "It consists of a pair of cross-action forceps, the blades of which terminate in branches 2½ inches in length, and slightly bowed at the extremities; within the bowed part is inserted a piece of delicate but strong net: the forceps open to the extent of three quarters of an inch, which will be sufficient to obstruct all passage through the windpipe in the ordinary situation for tracheotomy." When the patient is inverted it is evident that any foreign body would be very likely to fall into this net, and might then be removed at once, or by a pair of common forceps. (73.)

It is scarcely necessary, in introducing any improvement in the treatment of strangulated hernia, to go over the more ordinary methods of reduction. Every medical student of a few years' standing, will now be able to recapitulate the treatment by the taxis, by blood-letting, by the warm bath, cold applications, injections of tobacco, purgatives, and purgative enemata, the exhausting syringe of the stomach pump, anti-spasmodics, opium, belladonna, and lastly, by means of dividing the stricture. Some of these more ordinary means of treatment have been lately improved; and Dr. James Arnott, of Brighton, offers for consideration some remedial measures on a principle different from any hitherto applied. Two of the best and simplest methods of reduction are long continued pressure of the hernial tumour and the application of cold to it. But neither of these modes have hitherto been perfectly applied singly, or conjointly. If they are so often successful when applied separately in the way which is usually adopted, we think that they may be still more so when applied conjointly in the way recommended by Dr. Arnott. The continued application of cold and pressure will reduce the volume of the gas in the intestine, and materially aid in keeping down inflammatory action. It may be accomplished by placing a bladder of water upon the hernial tumour, and keeping up pressure upon it by the hands or some other contrivance; and at the same time by causing a current or constant change of water in the bladder

by means of two tubes, one conveying the water to the bladder from a reservoir above, and the other conveying it away to a receiving vessel. The bladder should be confined to the hernial tumour by a metallic or wooden case, in the form of a basin, or by a small flower pot, of considerably smaller diameter than its own, and having an opening in the centre for the passage of the current tubes. By this means the hernial tumour will be completely surrounded by, and imbedded in, the bladder which may be kept at the required pressure by a bandage or truss.*

This constant change of cold water will be found to produce even a more powerful effect than when ice is used; in the same way that a heated substance is more quickly cooled by exposure to a current of air than when exposed to a still air of a lower temperature. When this apparatus is properly secured and brought into regular action, it may be continued while other measures are resorted to; and even in old irreducible herniæ it may be found occasionally successful even when the tedious means adopted by Arnaud have been abandoned. Many practitioners might decline adopting these measures on account of the trouble attending them: in this case we would recommend a common bladder to be filled with ice or the coldest water, and the pressure to be made by some folds of sheet lead or a saucer, which will enable any one to keep it up steadily and equably. This should be done in the position which is best adapted to the taxis; but as this could not easily be done in cases of irreducible hernia, which require a very long and tedious application of these means, the equable pressure of condensed air may occasionally be substituted, in the way recommended by Dr. Arnott, in his treatise on strictures of the urethra, viz., by means of a Mackintosh air-case, which ought to be thin where it is applied to the skin, and of larger dimensions than the outer part, for the purpose of its coming closely in contact with all the inequalities of the surface. Perhaps few subjects in surgery have been more neglected than the treatment of irreducible hernia. The patient is allowed to go through life exposed to all the hazards of his situation without any long-continued attempt to relieve him. These cases may probably one day be found more curable than is at present supposed. We know that pressure steadily applied will cause the absorption of morbid growths, or adventitious matter; and even scirrhous and malignant tumours have been known to yield to it. It will be evident to every one that this can be applied to a globular tumour better by the means recommended by Dr. Arnott, than by the application of a bandage. It seems now to be the opinion of some of our most eminent surgeons that before the operation for strangulated hernia is had recourse to, the forcible distention of the bowel, below the stricture by the injection of a sufficient quantity of fluid ought invariably to be

* For further details respecting the local application of heat and cold, see Dr. Arnott's paper in the Lancet for June 25, 1842.

tried. The principle of this practice may be illustrated by a very simple experiment. "Put a loop or fold of the intestine of a pig between two fingers, and distend it by a syringe, whilst the fingers are strongly grasping the loop. Immediately on the gut becoming filled, its loop (representing the strangulated portion of intestine) is gradually but powerfully withdrawn from between the fingers." This method would be more useful when the colon is the part protruded as in umbilical hernia: where the small intestine is strangulated, the injection must then be forced beyond the valve of the ileum, an operation which has frequently been accomplished. The same means may be used in intus-susception: and in this affection Dr. Arnott has found that rapid mercurialization has frequently been a means of relieving the patient. Some practitioners have recommended that before the actual division of the stricture by the knife is adopted, dilatation of the part should be attempted.

But we think that however plausible this may appear the instrument by which it is to be done satisfactorily has not yet been discovered. On this point we do not think Dr. Arnott's advice is judicious. He says "two or more broad flat probes, with wedge-like blunt points, might often be inserted on opposite sides of the intestine, and the stricture be stretched by separating them in a parallel direction, either by the hands alone or by easily contrived mechanism on the principle of the hand screw." With this opinion we cannot agree, and yet it is very possible that at some future time dilatation may be made useful for this dangerous affection. (74.)

The term *pannus* has generally been applied to an opaque vascular thickening of the layer of the conjunctiva covering the cornea, generally produced by the continuance of purulent or strumous ophthalmia, or by chronic inflammation of the cornea. During the course of these affections, especially the first, the palpebral lining becomes completely altered in structure giving rise to what is called a granulated state of the eye lids, which by its mechanical friction on the surface of the cornea, causes its vessels to be enlarged, loosening and thickening its conjunctival layer; hence haziness, a nebulous state or great opacity.

The treatment of this affection has confessedly been one of the most difficult and tedious in surgery. Various plans have been adopted; the removal of the palpebral conjunctiva by the knife or scissors, occasional small bleedings by one or two leeches or by scarifications, alternated with the use of astringents of diacetate of lead or sulphate of copper, besides numerous other methods, have been tried in vain, and when the disease has gained considerable ground it is too often irremediable. In these cases, therefore, we are delighted to find that the German ophthalmologists have discovered a remedy which holds out better hopes of cure than any we have yet possessed. This consists in inoculating the diseased conjunctiva with the matter of gonorrhœa, which however, ought not to be done unless the pannus is complete. Other

no less important contra-indications would be the existence of any bad habit of body, especially struma, gout, rheumatism, syphilis, &c. The virus should be selected from a case of mild gonorrhœa, or from a child labouring under purulent ophthalmia.

The disease will run its course more mildly than in a healthy eye, and it has been frequently found to leave the cornea perfectly clear in ten or fourteen days, oftener, however, requiring six weeks. If one inoculation does not succeed, another should be performed. In one case it was done five times. One very curious circumstance was noticed in some of these cases, which beautifully proves the intimate sympathy which exists between the two eyes. When both were affected with the disease it was only necessary to inoculate one. As soon as one eye began to improve, the pannus of the other likewise began to disappear, and both eyes were actually cured together. And therefore the rule now is that when both eyes are affected, the inoculation of the one suffices for the cure of both.

We are indebted to Dr. Robert Hamilton, of Edinburgh, for introducing this improvement into this country. (75.)

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Mr. Scott recommends a new kind of knife for the section of the cornea in cases of extraction of cataract. It is something like a broad slightly curved bistoury with a cutting edge only on the convex part. It is of sufficient length to traverse completely the anterior chamber, and increases in width and thickness from point to heel, enough only to prevent the escape of the aqueous humour but without any reference to the dimensions of the section that is to be made. It is to be pushed through the cornea at the temporal margin with its cutting convex edge downwards, so that while it is passing to the other side of the cornea, the convex cutting edge is situated so much below the edge of the iris that this body is not in that danger of getting under its sharp edge, as it is when using the common cataract knife. Mr. Scott prefers in all cases making the upper section of the cornea, as that enables him among other advantages to have command over the upper eyelid himself, and thus to regulate the degree of pressure on the globe without the aid of an assistant. In making the upper section of the cornea with this knife, it is to be held in the usual manner, between the thumb and two fore-fingers, the two other fingers resting on the patient's cheek, and the handle of the knife slightly inclined towards the side of the face, while the point punctures the cornea on its temporal margin ; the handle of the knife is then to be brought upwards with a sweep as the blade traverses the anterior chamber ; and when it has punctured the nasal side of the cornea, the handle will be nearly at a right angle with the temple. The knife is then to be carried completely across the anterior chamber ; in doing this

great care must be taken to press firmly downwards with the back of the instrument, so that the wound may not be unnecessarily enlarged by its cutting edge. This being accomplished, the point of the knife will have reached the nasal canthus of the orbit, and its cutting edge will be so far beyond the pupillary margin of the iris that it cannot be readily divided in completing the section of the cornea. The point of the knife is then to be carried upwards, the handle being slightly inclined in the opposite direction. The section of the cornea on its nasal side will now be complete, a small portion at the upper and outer part only remaining to be divided; and this is readily done in the withdrawing of the instrument.

In this way, the cornea being transfixed by an instrument of such a size only as will prevent the escape of the aqueous humour, no unnecessary force is employed, either in accomplishing this object or in preventing the eye from rolling inward. The section is completed, not by thrusting a wedge-shaped knife through the anterior chamber, the cutting edge of which divides the circumference of the cornea, only by the force with which its back is pressed against the opposite side of the section, but by an instrument that accomplishes the division of the membrane independently of any such pressure on its back. No unnecessary force is therefore had recourse to, and consequently spasm of the muscles of the globe is much less liable to occur; the aqueous humour is much less likely to escape; and if it should do so, the shape of the knife and its position in the anterior chamber are such, that the iris can scarcely fall forward before its edge; and even if this should be the case, it will much more readily recede behind it, under the slightest pressure of the finger on the cornea."*

The moveable needle knife has lately been used in several cases by Dr. Mackenzie, of Glasgow, for the section of the cornea. Although this instrument has been long known, it has not been much used of late, and we must say that we cannot perceive sufficient advantage in its use, to make us out of love with either Beer's or Wenzels knives; and we should think it inferior to the curved knife above described by Mr. Scott. It consists of a needle which is pushed through the cornea across the anterior chamber, and a triangular knife, like Beer's, which slides along the needle till it completes the section of the cornea. There is certainly one important advantage in the use of this instrument, viz., the needle can traverse the anterior chamber, puncturing the cornea at both sides, with less risk of the escape of the aqueous humour, and the counter punctuation of the cornea being effected, the knife can be glided along its director with safety and steadiness to its opposite destination whether the aqueous humour now escape or not. (77.)

* Cataract and its treatment, comprising an easy mode of dividing the cornea, for its extraction, &c. By John Scott, senior surgeon to the Royal London Ophthalmic Hospital, surgeon to the London Hospital, &c., Churchill.

Professor Rosas, in his operation for extracting cataract divides the cornea somewhat differently to most modern operators, and with a knife which is sharp on both edges. This knife is short, and convex at its posterior edge. Having passed his knife through both outer and inner portions of the cornea, he does not continue to push the knife towards the nose, but *draws* it slowly downwards and slightly outwards, and so completes the section. If the case is one of double cataract, he makes the corneal section, and concludes the operation on the second eye before he extracts the lens of the first. The object of the knife being sharp on both edges is to permit the operator to cut upwards as well as downwards if necessary; and in this way Rosas operates with great success, showing at any rate that in this branch of surgery success is more attributable to the skill of the operator than to the kind of instrument which he uses; for we should be afraid that most surgeons, by cutting upwards or backwards with the posterior cutting edge of the knife, would endanger either the iris or sclerotica; and when the iris rolls over the back of the knife, which it is so liable to do, it could not be pressed off with the same facility as when the posterior part is blunt. (83.)

Pressure applied to diseased parts, when judiciously employed, has long been regarded as a valuable remedy in particular diseases, in some cases of diseased testicle for example; this has generally been applied by means of straps of plaster, or some such application, which, however, cannot always be properly or durably applied. Dr. Krauss suggests the adoption of compression by condensed air, in Mackintosh bags, variously shaped, so as to fit the different parts of the body which are most likely to require such applications. He would surround a diseased testicle with one of these air cushions, consisting of two bags, one hanging in the other, and both narrow on the top, to surround the spermatic cord. Each bag is open on one side, from the top to the bottom, and they are attached to each other by their corresponding edges, so as to leave between them an air-tight space, accessible only by means of an air-tight screw, fixed to the bottom of the outer bag. Along the side opening are holes to lace the double bag, previously to its being inflated, around the testicle, and it is subsequently filled with air, by means of a simple air pump. The inside bag is thus uniformly pressed against the whole of the scrotum contained in the air bag. On the swelling of the testicle decreasing, more air can easily be introduced, or, on the other hand, if necessary, the degree of pressure can be reduced by allowing part of the air to escape. We have long since recommended air-pessaries for the support of prolapsions of the womb, and we are pleased to see a similar suggestion by Dr. Krauss. A bag of any shape and size could easily be made and introduced empty, or nearly so, into the vagina: it could then be distended to any degree which might be required, and would be one of the most comfortable and most effectual means of supporting these displacements. Pressure by

means of properly adapted air or water bags may also be of essential use in the treatment of different kinds of tumours. (79.)

The ter-chloride of carbon has been used for some time past with success in the Middlesex Hospital as an internal and external remedy in cancer and some other diseases. Mr. Tuson publishes an interesting paper on this practice, which, if corroborated by further experience, will be a valuable addition to our remedies in such cases. It was first ordered as a local application in a case of cancer of the breast, one drachm being mixed with a pint of water. The pain was relieved immediately. It was then given internally, one drop increased to two and three drops in a little water three times a-day. The effect was sedative, procuring sleep for 24 hours. The cancer afterwards sloughed and considerable pieces came away, the surface left having a healthy granulated appearance. In another case it was used for a cancer in the groin. The same sedative effect was produced, followed by similar sloughing. Its sedative effects seem to be confined to patients labouring under cancer and one or two other diseases, having no such power in other cases. It is also recommended in gangrena senilis, its antiseptic property being here as remarkable as in cancer, the fetor being completely destroyed by its use. Also in sloughing ulcers, in uterine affections, carcinoma, scirrhus, ulcerated surfaces with profuse discharge, its use as an injection has produced the greatest benefit. It may also be useful in neuralgic affections. (81.)

Dr. James Orr has suggested an improvement in the common operation of cupping. Instead of using the ordinary apparatus with spirits of wine he produces a vacuum by means of suction with the mouth. The cupping glass is like the one in common use, with this exception, that at its top there is a small tube terminated by a valve, made by tying a bit of bladder over it, and well secured with a thread round the neck of the tube. By applying the mouth to this tube, and sucking in the way that is done when a woman's breast is being drawn by the common sucking bottle, almost any required vacuum may be produced, the little bit of skin being elevated to an extent that is sufficient to allow the air within the cup to escape; and when the mouth is removed from the tube the pressure of the atmosphere forces the skin so close to the tube as to prevent the ingress of the air. But although this may be a very economical form of instrument, and may take up less room in the pocket of the surgeon, it seems to us inferior to that form of instrument which is now made with an exhausting syringe attached to it. Dr. Orr, however, makes another suggestion which may prove an advantage. After the part has been scarified he puts about an ounce of hot water into the cupping glass before he causes the vacuum. The water may be made much hotter than could be borne in ordinary fomentation, owing to the insensibility of the skin produced by the tightening of the cupping-glass. This form of cupping-glass with the ad-

dition of hot water may occasionally be very useful after the application of leeches. (84.)

Cases of strangulated hernia continue to be published, in which, after unsuccessful attempts at reduction in all the ordinary ways, Dr. O'Beirne's method, by means of the tube of the stomach pump, succeeded. We have repeatedly referred to this subject in our former volumes, and therefore need not dwell upon it in detail. Mr. Collambell publishes a case of the kind in which he used most of the usual means of reduction without success. He then introduced the tube of the stomach pump into the rectum to the distance of twelve inches; he then attached the syringe to the tube, and slowly injected two quarts of warm water; the syringe was then detached, and the water allowed to run off by the tube; the syringe being then re-attached, the air was exhausted, when the tumour was felt to be gradually diminishing, and by keeping up gentle pressure the contents were returned into the abdomen. (85.)

In those cases of deafness which depend on a paralysis of the acoustic nerve, M. Jobert has used electro-puncture in the following way:—Stard's sound is introduced through the nasal fossa into the eustachian tube, and in this sound a long thin acupuncture needle is inserted, so as to fix itself in a point of the parietes of the eustachian tube, while the other end projects from the end of the sound; another acupuncture needle is implanted in the membrane of the tympanum. This being done, one of the conducting wires of a galvanic battery, of which the trough is filled with water and muriatic acid, is passed through the eye of one of the needles, and the end of the other conducting wire is made to touch the opposite needle. Any number of pairs of the battery, from eight to forty, may be used according to circumstances, of course beginning with the lowest number. At the moment the two poles are put in contact, there is a very painful shock in the ear and head, with convulsive motions; but this shock and pain cease immediately. Eight days should intervene between each operation. (86.)

M. Lisfranc is very fond of applying escharotics to the neck of the womb in cases of ulceration of that part. He generally uses a solution of mercury in an excess of nitric acid. In these cases the speculum is indispensable. The escharotic is to be applied very lightly, not with a view to destroy the ulcers, but to modify their vital state; to produce a new action in the parts. He uses a soft brush, or dossil of lint, and immediately after the application of the caustic, the part is to be well washed with cold water. (87.)

In a case of phagedenic ulcer of the septum nasi, which threatened to destroy the whole nose, Dr. Zwerina, of Vienna, arrested the disease by the chloride of zinc. One grain and a half of the salt was dissolved in one ounce of distilled water, and the scabs being removed, the sore was pencilled over several times

a-day with the solution. At the end of a fortnight a healthy granulating surface was found underneath the thick crust which now covered the sore, and this being removed occasionally, and the solution re-applied, it cicatrized in five weeks. (88.)

It sometimes happens that a patient is affected with blindness from a palsy or excessive dilatation of the iris, which probably permits such a quantity of light to be admitted into the eye as to overpower the retina. This seems probable from the fact that occasionally, when the patient looks through a little hole in a card, his vision is considerably improved. It is very possible from the dilated and insensible pupil, and consequent blindness, that a practitioner might mistake such a case for amaurosis; and as the treatment of the one for the other would be highly improper, it is necessary to be aware of the existence of such cases. Mr. Ure and Mr. Arnott relate interesting cases of this blindness from an insensibility of the iris, and the former especially reminds us of the efficacious treatment of Serres, which consists of cauterising the circumference of the cornea by nitrate of silver. The solid caustic should be scraped to a point, and gently wiped round the circumference of the cornea nearly at its junction with the sclerotica; this may be repeated every day or two according to its effects, taking care not to produce too severe inflammation. But although this treatment may be occasionally very successful in an atonic state of the orbicular fibres of the iris, we should be disposed to try milder measures first, such as the vapour of ether or electricity. We should also recommend the use of turpentine, which has such a remarkable influence over the iris in many cases where every other remedy has failed. This may be given in doses of half a drachm or a drachm every night and morning, or thrice a-day. In some cases of night blindness, related by Mr. Kidd, in which the iris partook of the sluggish and almost immovable character which it assumes in real palsy (and which appearance is not described by Mr. Bamfield in his treatise on this subject), the oil of turpentine exerted a most marked effect, and soon restored vision. (91.)

Dr. Clay says that in a case of fistula ani which came under his notice he cured it with an injection of the tincture of iodine of the full strength ordered in the Pharmacopœia. The injection should be well thrown up the fistulous canal by a powerful syringe made of glass, and the operator should be certain that the injection passes through the whole length of the canal. This he can ascertain by passing up the rectum a bougie with a little lint round it: the iodine will be seen to stain the lint, if it have passed into the rectum. (93.)

Dr. Campbell Stewart recommends an alteration in the form of knife which is used to divide the stricture in inguinal and crural herniæ. "The instrument consists of a small convex knife and a hollow canula or tube. The knife is concealed in the canula which presents, at half an inch from its extremity, a notch of about two

lines in length, and one line deep, for receiving the membranes which form the stricture: this opening is closed at top by a steel blade, presenting at one end a small shoulder, and at the other a wire spring concealed in the handle. The knife small and convex, is strengthened by a shoulder on each side projecting a little higher than itself, and protecting its edge from contact with the canula into which it is introduced through an opening in the back of the handle." The knife is thus moveable and cuts both ways. (101.)

Dupuytren's method of curing a prolapsus ani in the adult was at first by excising a portion of the mucous membrane of the bowel, and afterwards by cutting away only the folds of skin at the margin of the anus. The anus in these cases being immoderately dilatable, this process causes a degree of consolidation and contraction. It is seldom that this is required in the child. Sir Benj. Brodie's plan will generally succeed by injecting every morning 2 or 3 ounces of a lotion composed of ʒi of tinct. ferri muriatis and a pint of water: at the same time giving occasional gentle aperients and not too much vegetable food. Dr. M'Cormac, reflecting on the method of Dupuytren, applies the same principle to cases of children in the following simple way. When the child goes to stool, the skin exterior to the anus is to be drawn to one side by means of the fingers extended around. At first the child may not be able to evacuate its bowel, but when encouraged to persevere it will do so, and will often, in this simple way, be entirely cured. (102.)

In the treatment of vascular nevus, Professor Smith of Baltimore saturates a thread with a saturated solution of caustic potash. This is dried by the fire, and a needle being armed with it, the base of the tumour is transfixed with the needle and the thread quietly drawn through the part. This is repeated in different parts of the tumour. The tumour will gradually waste away.

On the subject of glaucoma there have been such differences of opinion that we could not find room, even if we had the inclination, to discuss the merits of each side of the question. In many of the standard works on the eye, we find the discovery of Rukinje (in 1823) is not referred to. We mean the reflection of a luminous body, such as a candle, from the anterior and posterior surfaces of the lens. In cataract this diagnostic symptom is most valuable An article on this subject will be found in Retrospect, vol. 4, p. 139. "If a lighted candle be held before the pupil of a sound eye, three reflected images of it are seen situated one behind the other. Of these the anterior and posterior are erect, the middle one inverted. The anterior is the brightest and most distinct, the posterior the least so. The middle one is the smallest. If the candle be moved, the two erect images follow it, but the inverted one moves in the opposite direction, though not so quickly and extensively as the other two. The anterior erect image is produced by the cornea; the posterior, by the anterior

surface of the lens; and the middle or inverted image is from the posterior surface. If the whole crystalline body be opaque, no image but the anterior erect one from the cornea is seen. This is of course the case also, if the anterior part alone be opaque; but if it is the centre or posterior part only which is opaque, the two erect images are seen, but the middle or inverted one is not." Other very interesting information will be found in the paper referred to. This mode of examining the eye is valuable not only in cataract but also in glaucoma and amaurosis. It is perfectly decisive in cases of amaurosis, for where the three images are perfect, we may be pretty sure that the defect of vision is owing to the retina or some part of the nervous apparatus. In glaucoma the lens may appear yellow and cataractous, but the inverted image is only obliterated at a very advanced stage, while it becomes so very early in cataract. In glaucoma the deep erect image is evident in all its stages, and becomes even larger and more evident than in the healthy eye, and of a yellow colour. Dr. Mackenzie in his examination of the eye affected with the disease found the choroid coat, and "especially, the portion of it in contact with the retina, of a light brown colour, without any appearance of pigmentum nigrum;" and hence the opaque appearance of the deep seated parts of the eye, arising probably from a reflection of light from the retina, choroid, and sclerotica. This reflected light "is probably bluish when it first leaves the reflecting surface formed by these membranes, but immediately assumes a greenish hue from passing through the yellowish fluid which still occupies the place of the vitreous humour, and through the lens, which is still more decidedly of a yellow, or even amber, colour, at that period of life when glaucoma is most apt to attack the eye."*

There is occasionally met with, a case of black cataract in which these reflected images from the lens are particularly valuable; for in such a case we might easily mistake the disease for amaurosis. In a case of this description related by M. Magne, the patient was quite blind, but the pupil perfectly black, as in the healthy state. It was supposed to be amaurosis; but on trying a lighted candle in a dark room the deep seated inverted image was absent, which induced M. Cruveilhier as well as M. Magne to decide that the lens was black, and that the immobility of the iris was owing to its adhesion to the lens. Both these facts were proved by a subsequent operation. (97.)

In some cases of enlarged bursæ we may adopt all the usual and simpler modes of treatment, and fail in dispersing them, or the treatment may be so tedious as to weary the patience of both surgeon and patient. We may blister and compress them, or pass a seton through, or make a valvular opening into them, and after letting out the fluid, incise the inner surface of the sac, or we may extirpate them with the knife. One of the best and safest plans of treating these bursæ is by blistering them, or using the tincture of iodine as a counter-irritant. Where they are small as over the

* See Brit. and For. Med. Rev., July, 1843, p. 110–117.

wrist, the fluid may be let out with a needle and compression applied. In a case of inflamed bursa of the patella, in which the usual treatment had failed, Mr. Hale Thompson cut down upon it and carefully dissected it away. The coats of the bursa were at least a quarter of an inch thick.*

Mr. Wilkinson King published in the Guy's Hospital Reports for 1838, some statistics to show that most herniæ exist for years before they become subject to strangulation: and he has lately drawn the attention of the profession again to this subject, and endeavours to show that this fact has a very important influence in causing strangulation, which he asserts is not owing to the state of the sac, but to that of the bowel, in which defective nourishment and power of vessels leads to more ready tumefaction, and a peculiar and unhealthy kind of peritonitis. To obviate this inflammation, ought, perhaps, to form a more important indication of treatment than has generally been insisted upon.†

We have so repeatedly referred to the treatment of gonorrhæa in its different stages, that it is hardly necessary again to dwell upon the subject. We cannot help however recapitulating the modes of practice of some of those who have been most successful in this disease, especially in what is called the abortive treatment. Ricord lays it down as a rule, that in all cases where the disease is not complicated with phlegmonous inflammation of the structures surrounding the urethra, the abortive treatment ought to be in the first place attempted. He shows that stricture and most other evil consequences of gonorrhœa are owing rather to the persistency of inflammation than to the means of cure. His treatment is applicable to all periods of the disease when acute inflammation does not attend them; even a sub-acute degree of inflammation does not contra indicate the treatment. We need not remind the reader that injections of nitrate of silver form his chief remedy. He uses one injection a day, composed of 10 grains to the ounce of distilled water, which need not be limited in its course to the first inch or two of the urethra, but may be allowed to pass throughout its extent, as the inflammation often extends beyond the bulb, and where no inflammation exists, the injection will do no harm; not even if it enter the bladder (which is not very likely,) as it would be decomposed by the urine. This treatment gives rise to another kind of inflammation which would subside by desisting from the injections of nitrate of silver, but may more rapidly be dispelled by injecting 3 times a day, a solution composed of 8 oz. of rose water, sulphate of zinc, and sub-acetate of lead, of each 17 grains.‡

In cases of gleet, Mr. Bennett Lucas prefers an injection composed of alum and water, from two to five grains to the ounce, or of acetate of zinc, 2 or 3 grains to the ounce. He has relinquished the nitrate of silver in this stage of the disease. The injection of port wine and tannin recommended by Ricord, and also by Mr.

* Lancet, Aug. 12th, 1843, p. 697. † Med. Gaz., May 5, 1843, p. 192.
‡ Prov. Med. Journ., June 17th and 24th, 1843, pp. 226–243.

Langston Parker, he also thinks very useful. It is composed of 18 grains of tannin, in six ounces of port wine.

Mr. Childs adopts a mode of treatment at the very commencement of the disease still more energetic than that of Ricord, and most other writers on the subject. He applies the solid nitrate of silver to the part, by wiping it over the mucous membrane, by means of an armed bougie, a modification of Lallemand's caustic-holder.*

We might here refer to several other improvements or useful suggestions—such as Dr. Wigan's treatment of tinea and several other really useful kinds of practice, but these will be found in the several short articles of "Surgery."

We will here direct the attention of our readers to some of the most practical and important publications which have come out of late, and chiefly within the present year, either in the form of first or second editions: and we wish we could devote a greater space to this part of our undertaking, as we think that a great mass of very interesting and truly practical information might be condensed into a small compass from the different works on medicine and surgery every half year. This would however require of us to publish another volume annually, or even two, which we hope would be as acceptable to the profession as this humble effort of our industry has already proved to be. In the remaining pages of this "Retrospect," the reader will find some excellent remarks taken from some of these recently published works; and we wish it to be distinctly known that in these observations we make use of the remarks of the authors themselves, and chiefly their own words; selecting those parts which we esteem as the most useful and practical, and avoiding those opinions and practices which might seem to us objectionable. By this means we avoid the disagreeable task of criticising and finding fault, and only present that food to the reader which is wholesome and nutritious.

The three most valuable works on surgery which have lately come under our notice are "The Elements of Surgery" and "Practical Surgery," by Mr. Liston, and "Practical Surgery," by Mr. Fergusson: works which ought to be in the possession of every practitioner and student of surgery. After recapitulating the different methods of breaking down stone in the bladder in the operation of lithotrity, Mr. Liston, in his "Elements of Surgery," gives his opinion of this operation as follows:

"It will be seen from what has been stated, that I am not so sanguine—and I trust I shall be excused of presumption in giving an opinion upon the subject—as to suppose that the breaking up of the stone in the bladder will ever entirely supersede lithotomy. That it would do so was at one time industriously represented, and perhaps believed, by some of the advocates and promoters of lithotrity. If, by some miraculous interposition of Providence,

* Med. Gazette, July 28th, 1843, p. 647.

the deposits from the urine should uniformly be pulverisable, and that bladders be made of less irritable stuff than they are, and if, above all, the affected individuals could only be prevailed upon to apply in due time, then might such pleasant anticipations be entertained, and then might we with some reason hope to see them realised; but as matters now are, urinary concretions must in a great many instances be cut out of the bladder. Nor is it a circumstance to be very much deplored, since, in good hands, the patient neither endures so much suffering, nor incurs so much risk, as by the proceedings already detailed. The cure, besides, is far less tedious. The stone-grinders, whilst they conceal their own unfortunate results, endeavour to depreciate lithotomy by blazoning abroad the practice of some unlucky surgeon, who, perhaps, loses four in twelve, or six in twelve, of the patients who come under his knife.

"It has been said that lithotrity is applicable, when, from the advanced age of the patients and the rigidity of the parts to be cut, lithotomy is not. This statement is incorrect, at least the latter part of it. Old people, from 70 to 80, and even beyond that age, recover, when the operation is conducted quickly, without loss of blood, and so as to guard against infiltration, as certainly and rapidly as young persons. Within the last few years the apparatus for breaking up stones has been very much simplified and improved upon. The screw lithotrite can with great propriety and safety be employed in cases in which the concretion has not attained any very large size, and in which also the urinary apparatus is healthy, and tolerably free from irritability. The cases for this operation must be well chosen, and the proceedings conducted throughout with great caution, gentleness, and judgment. Very full directions are given in the 'Practical Surgery' for the performance of this operation."

"Before proceeding to incise, the finger is introduced into the rectum to ascertain that it is in an empty state, and also to promote its contraction. A knife is used, with blade and handle somewhat longer than those of a common dissecting knife, and without any edge till within an inch and a half from the point,—held lightly in the fingers, the end of the handle resting on the palm. It is introduced close to the raphe, on the left side, and nearly opposite to where the erector penis and accelerator urinæ approach each other. Its point is made to penetrate through the skin, fat, and superficial fascia of the perineum, and is carried downwards with a slight sawing motion, by the side of the anus—about midway betwixt the anus and the point of the tuberosity of the ischium—and is continued till nearly past the lower part of the orifice of the bowel. The forefinger of the left hand is then introduced into the wound, and the resisting fibres of the transverse muscle of the perineum, and of the levator ani, are touched with the edge of the knife directed downwards. Wound of the rectum is avoided by pressing it downwards and to the opposite side by the finger; indeed the finger should be constantly in the wound

as a guide to the knife. In this stage of the proceedings, incision upwards would be likely to interfere with the artery of the bulb, whatever its distribution may be,—whether the vessel come from the pudic, or from the posterior iliac. It occupies nearly the same relative situation in either case, and by care can always be avoided during the second incision."

Mr. Liston prefers the curved to the straight staff in lithotomy. He thinks that "this form of instrument will prove the most convenient guide into the bladder. It is introduced fairly into the viscus, and made to touch the stone audibly. Its concave surface is raised towards the arch of the pubes, and retained thus, firmly hooked under the bones—as if with the intent of lifting the patient from the table—perpendicularly straight, without any inclination of the handle, or any bulging of the convexity towards the perineum. After being properly placed, the instrument is intrusted to an experienced assistant, who keeps it exactly in the same position from the beginning to the conclusion of the incisions. He at the same time elevates the scrotum, and, standing behind the patient, leaves the surgeon with both his hands at liberty, and with the patient's perineum all clear. The operator is thus enabled to guide the knife by the left hand; whereas, if he use a straight staff, his left hand must be solely devoted to the management of this instrument during the most delicate part of the incisions."

Mr. Liston is of the same opinion as most of our best lithotomists with respect to the danger of using the knife too freely in the deep incision. When the membranous portion of the urethra is reached "the knife is passed over the back of the forefinger in the wound, and lodged in the groove of the staff; it is then carried forwards through the prostate, with the edge directed downwards and outwards, cutting the gland obliquely. In this incision the knife is raised very little from the groove, the object being to divide the gland to the extent of no more than barely three quarters of an inch. By so doing, the reflection of the pelvic fascia remains uninjured, and the boundary is left entire betwixt the external cellular tissue, and that loose and very fine texture immediately exterior to the bladder—betwixt it and the fascia lining the pelvis; thus the risk of urinary infiltration is done away with, at least much diminished. There is great danger in dividing the base of the prostate completely, and much more in cutting any part of the coats of the bladder. When the knife enters the groove of the staff, this latter instrument must be held very steady; if it be at all withdrawn, its point may escape through the wound, and mislead the knife."

"Through the prostatic opening the finger is easily passed into the bladder, and the stone felt. The staff is then withdrawn. Sometimes it is a troublesome matter to reach the bladder with the finger, in consequence of the straining and struggling of the patient, causing the organ to ascend in the pelvis; the difficulty

is overcome by patiently waiting till these exertions cease. By steady and gradual movements of the finger in the wound of the prostate, the opening is much dilated, so as to admit of the ready introduction of instruments for laying hold of and removing the stone. Indeed, the neck of the bladder is capable of dilatation without any incision. In a case of perineal abscess containing a portion of exfoliated bone, on account of which incision was made, it was found that the cavity communicated with the urethra; lest other foreign matter should remain, I introduced my finger into this aperture in the membranous portion, and found that by the most gentle movement I could not only easily reach the bladder, but dilate the opening in it to a very considerable extent.

"By the finger in the bladder, the size and position of the stone is ascertained; and no extracting instrument should be employed till after the finger is in contact with the stone. When it is of moderate size, and after having been turned, if necessary, into the most favourable position for extraction, the forceps are introduced. This instrument should be tolerably long, so as to afford power in its use; and the extremities of its blades should be covered with coarse linen, for thus it is not so likely to slip or to chip the stone as those with raised and projecting teeth. For flat stones, the forceps should be flat-mouthed; for round, more open, hollowed, and bent at the points; or for the latter description of stone, forceps with a sliding joint may be used. The object is to lay hold of the concretion by as many points as possible—to bring a large surface in contact with the instrument. Those with the sliding joint are of no service when the stone is flat, as it either cannot be caught by them at all, or merely by their points or near the joint; they are applicable only to round stones of considerable size, but they are very troublesome to manage. The instrument is introduced shut, along the finger, and on reaching the prostate is gently insinuated, whilst the finger is at the same time withdrawn. It is brought in contact with the stone, and carefully opened, the handles being raised. One blade is passed under the stone, the other remaining above, and then the instrument is closed, firmly but not forcibly. By the finger, again introduced, along the side of the forceps, it is ascertained whether or not the stone is held securely, and in the proper direction; if not all right, it may then be turned by using the point of the finger and slightly relaxing the grasp. Now the handles of the instrument are depressed, so as to avoid resistance from the bones in the front of the pelvis, and the extraction is commenced, in a steady and gradual manner; if difficulty is experienced, dilatation is effected, and the process facilitated, by moving the forceps gently backwards and forwards; no force or violence is required, either in pulling or dilating; all should proceed smoothly and with deliberation.

"The forceps must be proportioned in length to the size of the stone; a large concretion requires long forceps, both that it may

be grasped securely, and that sufficient power may be afforded for the extraction."*

Mr. Liston's "Practical Surgery," embellished with 150 beautiful wood engravings, is one of the best works of the kind which we have ever seen. It is full of practical and original matter founded on extensive experience. We think his views of lithotrity worthy of extensive circulation. After enumerating the various improvements which from time to time have been made in the instruments to crush the stone, he states that all these have now given way to the instrument which the Messrs. Weiss have brought to the utmost state of simplicity and perfection. Mr. Weiss, jun., has been steadily proceeding in improving the instrument, so as to render it more safe and efficient, he has listened to such hints as have been offered: he has, at Mr. Liston's suggestion, improved the handle, making it now of metal, and smooth, instead of being covered, as formerly, with ivory or wood made rough. The contact with the foreign body is thus rendered much more distinct, and greater facility afforded in seizing the stone. At the suggestion of the late Mr. Oldham, a gentleman attached to the Bank of England, he has also adopted a most essential improvement, without weakening the instrument; the outer or anterior blade being now made open, so as to receive the other. The clogging of the instrument is thus effectually prevented, the fragments being readily forced through the fenestrum.

For many years the greatest inconveniences and danger certainly resulted from the defective nature of the instruments used in this operation.

Of late, however, the operation of lithotrity has been much improved and simplified in all respects; it is applicable now to a great variety of cases, and is likely, in a few years, to supersede in a great measure the operation of cutting for stone. Until very lately, patients applying to surgeons were constantly recommended to submit to the knife, in order to get rid of stone in the bladder, whatever might be the size of the concretion, or the state of the urinary organs. On the other hand, if he fell into the hands of the grinder, no matter what the peculiarities of his case, he was as certain to be subjected to the boring and hammering processes. Now that the merits of both operations are better understood and appreciated,—some few surgeons having thought proper to turn their attention to the matter, and study and understand lithotrity as well as lithotomy,—patients have a chance of being treated judiciously and conscientiously, and of having that proceeding resorted to which is adapted to the circumstances of their respective cases. Mr. L. was not slow to adopt the operation of crushing, having always had a favourable impression of it, and having

* "Elements of Surgery," by Robert Liston, Surgeon to the North London Hospital, Professor of Clinical Surgery, &c. &c. Second edition, illustrated with engravings, and wood-cuts by Bagg.

throughout used the same language regarding it; yet he has the credit of being an opponent of lithotrity. He has all along been, and is certainly still, opposed to the abuse of any one operation, by its indiscriminate employment in all cases, and by its being practised by those alone who know no other. It can be employed safely only by those who understand well the healthy anatomy of the urethra and bladder; who are acquainted with their sympathies, vital actions, and pathological changes; and who both understand, and are in the constant habit of treating, derangements of their functions. The operation of lithotrity is applicable to patients above the age of puberty, when the symptoms have not endured very long; when the foreign body is ascertained to measure six or seven lines, or even more perhaps, say as large as a chesnut; when the bladder and urethra are in a tolerably healthy and normal condition, —as indicated by the power to retain the urine comfortably for several hours, and to pass it in a tolerably free stream; and when the viscus admits of injection and a careful exploration. That the stone may be seized readily, and acted upon without danger to the lining membrane, the bladder should contain at least five or six ounces of fluid. The patient is placed upon a couch, with the pelvis raised upon a firm pillow; a catheter is introduced, and a sufficient quantity of tepid water injected by means of a syringe properly fitted to it. The catheter having been withdrawn, the screw lithotrite is introduced, the whole bent part being received within the cavity of the bladder; and it is then carried to the usual situation of the stone, by raising its handle.

The one blade is slid back on the other, so as to expand them; they are then moved slightly, and the stone seized. This is done with all due caution; and it is ascertained that there is no entanglement with any fold of mucous membrane, by raising the point gently; the instrument is then brought towards the neck of the viscus, and the stone there acted upon. The pressure is applied at first gradually, the screw being alternately turned forwards and backwards. The yielding of the foreign body is felt, and even heard; and it is disintegrated and crushed, as certainly and more safely thus than by the use of the hammer; some of the instruments are made so that this latter method of approximating the blades may be employed in addition, but that part of the proceeding must soon fall into disuse.

The fragments may be taken up and operated upon, one after another, by the same instrument; if the patient has not suffered much, the screw-scoop may be substituted at the first sitting, an instrument of the same form, but with a smaller opening in the anterior blade: with this some of the broken portions may be laid hold of, crushed, and extracted. In this way,—at one operation, if the stone be small,—the cure may be completed without effusion of blood, and with very little more pain than is caused by the introduction of a bougie. A small quantity of blood occasionally passes with the urine and injected fluid, probably from the posterior por-

ion of the urethra being stretched and made straight, and compressed at points owing to its curvatures being effaced. There may also be a little over-stretching of the orifice, in spite of every care in forcing the two blades in contact by the screw. The detritus does not pass readily for a few days, until the water is again evacuated in a full stream and in quantity. Diluents are given freely; and opiates may be exhibited by the mouth or lower bowel, and general or hip-baths used, if symptoms arise requiring such practice. Should any great excitement about the neck of the bladder take place, with frequency and pain in micturition, it may be necessary to abstract blood from the perineum. In general, however, the disturbance is slight, if any; a farther examination can be made in six or eight days, and such fragments and detritus as remain, are then to be dealt with according to circumstances. A very few sittings will suffice to rid the patient of such a stone as it is advisable to attack in this manner. Mr. Key has lately recommended the addition to the lithotrite of two wings with nets attached, into which he proposes to receive the stone, and by that means to throw the broken portions again and again within the blades as they are opened, so that they may be at once more certainly and effectually triturated. The machine is very ingenious and pretty, but Mr. Liston does not approve of the proposal; a proceeding which has been gradually simplified and made of safe and easy application, would be thus again rendered complicated, precarious, and more difficult than ever in execution.

When the stone is much larger than above indicated, and when the bladder, in consequence of the endurance of the irritation, has become contracted, fasciculated, and irregular on the surface, presenting the rudiments of pouches, it will be absolutely impossible to make sure of removing all the detritus. Nuclei must be left, and very shortly the patient will have five or six stones substituted for one. The suffering and danger, moreover, endured by the patient at each sitting,—when these are often repeated, in an unsound bladder, for removal of the fragments of a large concretion,—are much greater than those resulting from a speedy and well-conducted, safe operation for its removal, entire and at once. By lithotomy the excited state of the bladder is relieved by the removal of all source of irritation, by the viscus being put at rest, and its functions suspended, and by the loss of blood from the neighbouring vessels.

In lithotrity, on the other hand, when the stone is large and considerable fragments are left, the irritation is greatly increased. The pain experienced in passing fragments is often extreme, and not unattended with danger; for difficulty is often experienced in dislodging portions from the urethra. Then retention follows, perhaps, with inflammation of the bladder. The pieces of stone may sometimes be dislodged by the use of a scoop, with or without a second blade; and such an instrument has been made, at Mr. Lis-

ton's suggestion, by Mr. Weiss. But occasionally their size renders it impossible thus to get rid of them; and then incision of the perineum in the mesial line must be practised, and that early, in order to save the patient. Mr. L. has been obliged to resort to this proceeding; and then he did not hesitate to carry the incision a little farther, and take the liberty of clearing the bladder by the use of the scoop and finger. Blood too is often lodged in the bladder and removed with difficulty. The excited action which follows is, perhaps, at first slow and weak; but it soon becomes lighted up by the continued irritation resulting from the frequent contraction of the viscus and contact with the angular pieces of the concretion. Unless a very correct judgment is exercised in determining upon the practice in particular cases, and great gentleness observed in the manipulations, fatal results must very often follow. Otherwise, the termination, like that in the case of a woman undelivered, is very unsatisfactory.*

Mr. Fergusson, in his admirable work on Practical Surgery, almost invariably recommends the flap operation in amputation. Since 1679, when Lowdham first proposed this operation, there has been great controversy as to its merits, and those of the mode by circular incisions. Previous to the last twenty years, although the operation may be said to be entirely British in its origin, the circular method seems, with few exceptions, to have been universally followed by surgeons of this country. Of late, the proceeding by flaps has again been introduced, more especially among those who have been educated in Edinburgh within the above-named period. The influence and example of Messrs. Liston, Lizars, and Syme, must have induced thousands to follow this plan. Sir George Ballingall also invariably performed the flap operation during the time he officiated as acting surgeon in The Royal Infirmary, although it appears, from his valuable work on Military Surgery, that he does not assent to all the advantages that have been claimed for this mode, nor acquiesce in the abuse which has been heaped on the circular incisions. His successors followed in the same course, and, like other pupils of the school, Mr. F. has imitated the practice of his seniors, in by far the greater number of amputations which he performed in Edinburgh. He states that during a period of twelve years, the circular operation was never performed in The Edinburgh Hospital until it was again done by himself, during the latter part of his service in that institution. He says that from the statistical tables of the establishment, drawn up by his respected friend, Professor Reid, of St. Andrew's, that in two years (from July 1839 to July 1841) sixty-nine amputations on the extremities were performed, and it will therefore not be unreasonable to suppose, that upwards of

* Practical Surgery; with one hundred and fifty engravings on wood. By Robert Liston. Third edition. The Engravings in this splendid work are exquisite.

four hundred similar operations were performed in the above twelve years. When the operations in private, during the same period, by the flap method also, are added to this number, it may readily be perceived how widely the example must have spread. Having, with few exceptions, witnessed all those done in public, and seen and been engaged in a reasonable proportion of private cases, it could scarcely be otherwise than that Mr. Fergusson should, in his own practice, follow the flap incision; more especially when he contrasted those done by the above-named gentlemen and others of less note, with the occasional circular operations which, from time to time, he witnessed elsewhere, and when, in addition, he compared the stumps made by the two methods, and consequently by different practitioners.

If rapidity of execution is to be taken as the test of superiority, then the flap operation must be allowed the preference; but in the hands of a good surgeon, the difference of time required for the efficient performance of either, seems of so little consequence that such a calculation should not be taken into account.

It has been asserted in most controversies on this question, that in the circular operation the skin alone is left to cover the end of the bone, whereas in the flap method there is a cushion of muscular fibres preserved, which afterwards protects that part, and lessens the chance of injury from pressure. The nature of the covering, however, depends greatly on the manner in which the operation is performed. In the circular, if the skin is freely dissected upwards before the other soft parts are divided, the end of the stump can be formed only by this texture; but if the incisions are so managed as to leave a sloping surface from the edge of the divided bone to that of the skin, and if a sufficiency of soft parts be left, the covering of the bone may thus be as thick (as muscular) as by the flap operation. In the leg, one side of the stump, when formed by the circular proceeding, must always be formed of skin only; but in the thigh, arm, and upper part of the fore-arm it is quite possible to preserve the parts in the manner above referred to. It is worthy of remark, that the muscularity of the calf of the leg has been made an objection to the flap operation in this situation, and that pains have been taken by some of the greatest advocates for this operation,—those who insist on the necessity for a thick covering,—to make the incisions in such a manner as to preserve the skin only. Mr. Liston has recommended that in this situation "two semilunar flaps had better be made, one from the anterior aspect of the limb, the other from the posterior, the muscles being cut short in the ham." In very muscular subjects the large posterior flap which is usually made here, is almost certain to project considerably beyond the skin; Mr. Fergusson has noticed a similar thing with the deltoid muscle after amputation at the shoulder joint; the occurrence retards the cure; but in the course of some additional time, perhaps a month or more, the stump differs little from one where no such protrusion

has ever happened. In either of these cases, and whether the operation has been by flap or by circular wound, the stumps are at last so much alike in certain parts of the body, that it is occasionally difficult, after the lapse of years, to say whether an amputation has been by one mode or the other: at all events, when such distinction can be drawn from the shape of the cicatrices, it is evident that the end of the bone is covered by much the same thickness of soft parts, in one instance as in the other. If there has been a full fleshy stump shortly after the operation, all muscular fibre has at last disappeared, and the skin, with a substance resembling condensed cellular texture, alone covers the bone. This substance undoubtedly gives great protection to the end of the bone, and its presence is absolutely necessary to constitute what may be deemed a good and useful stump: therefore, whether the circular or flap incision is resorted to, Mr. Fergusson always endeavours to preserve more than the skin for a covering.

It is impossible to argue that non-union, suppuration, protrusion of bone, exfoliation, tumours on the ends of nerves, and so forth, have not followed the circular operation,—all these evils must be admitted; but the same results have occurred from the method by flap. It is, indeed, difficult to imagine why the circular incisions should cause all the above troublesome results, whilst the flap method should avoid them: Mr. Fergusson says he shall not feel convinced on the subject, until he sees that such is really the case,—until he sees a certain number of amputations by these two methods, done by the same surgeon, or by two who are equally competent, and find all the evils on one side, and the advantages on the other. Some such proof as this is still wanting for the surgeons of the present day. It is not to be overlooked that some of the most distinguished in the profession have almost invariably performed the circular operation, and surely all the stumps formed by these gentlemen were not so bad as the advocates for the flap would lead us to suppose. Mr. Fergusson is perhaps correct in stating that even in the present day, more amputations are done by the circular than by the other mode; and, fifteen or twenty years back not one surgeon in fifty ever thought of performing any other operation than the circular.

Sir George Ballingall, after nearly thirteen years' experience in military hospitals, and more than fifteen in civil institutions,—who, during his period of operating in the Royal Infirmary of Edinburgh, performed the flap operation invariably whilst Mr. Fergusson had an opportunity of observing,—who may notwithstanding, be considered less prejudiced than some other authorities, thus writes:—"The flap operation is a seductive one and I can speak from my own experience when I say, that it is an operation which one is unwilling to relinquish after having once experienced the comparative facility of its execution." The last part of this sentence implies, in Mr. Fergusson's estimation, a most important distinction between the two proceedings, and has

probably had the greatest influence in determining his own line of practice; and here, then, let it be remarked, that he speaks with reference to the performance of the respective operations, not their results.

This admirable little work is illustrated with 246 most beautiful wood engravings, by Bagg, and seems to us to take an equal rank with the larger work of Mr. Liston, on the same subject, and in sound practical directions is inferior to no work on surgery in our language.*

We know of no single remedy which is much more useful in a variety of diseases than nitrate of silver. In affections of the eye, and especially when the conjunctiva is the seat of disease, it is of inestimable value. On the treatment of purulent ophthalmia with this substance, Mr. Walker says—

"I have already stated it to be my opinion, that the antiphlogistic treatment of purulent ophthalmia is both useless and improper. I have never myself employed bleeding, either generally or locally, in any of the cases of this affection, which have come under my own care within the last thirteen years. Having, for some time previously, been in the habit of witnessing the admirable effects of stimulants in the treatment of some other varieties of conjunctivitis, it seemed to me that they might be equally serviceable in that of the disease in question; and I believe I was the first to employ the nitrate of silver in substance, in this variety of ophthalmia: at least, no published statement of any such employment of it, had appeared at the time when my paper, detailing some cases in which it had been successfully used, was published in the Lancet, vol. ii., 1830-31, p. 619. The result, as regards my own mind, from my practice with this article in substance, is, that I have great confidence in my ability to check by it the progress of the affection; and, at the same time, a conviction, that very few, if any, cases of it will terminate unfavourably, if this treatment be resorted to before the deep-seated ulceration or sloughing has commenced.

I may observe, also, that Dr. Littell has given his testimony very strongly in favour of my mode of treating purulent ophthalmia. "It is in this form of ophthalmia (says he) that the nitrate of silver most remarkably displays its sanatory powers, and constitutes indeed our principal reliance. Applied in substance to the inner surface of the palpebræ, it diffuses its influence by continuous sympathy over the whole conjunctiva, while it also acts directly upon the opposing surface of the globe; and, in the severer grades of inflammation, is decidedly preferable to the forms of solution or ointment. The nitrate of silver in substance is now,

* A System of Practical Surgery. By William Fergusson, F.R.S.E., Professor of Surgery in King's College, London; Surgeon to King's College Hospital, &c. &c. With 246 illustrations, by Bagg.

likewise, generally preferred by the most eminent French surgeons.

I have already given some directions respecting the mode of employing the nitrate of silver in substance. But, in the variety of ophthalmia now under notice, it is requisite that it should be applied more freely than in instances of ordinary conjunctivitis.

In the early stage of purulent ophthalmia, the palpebræ are sometimes so tense that it is not easy to produce sufficient eversion to allow of the nitrate being applied very extensively. In this case, we must insinuate it gently beneath the margin of each lid, and allow it to touch as much of the conjunctival surface as we can. It may also, with great propriety, be allowed to come in contact with as large a surface of the chemosed conjunctiva as possible; and, with a pretty large surface of it, it may often be brought in contact, because, as I before observed, there is frequently a considerable bulging of the membrane between the lids. In cases of this kind, we need not be under the slightest apprehension as to any unpleasant effects being likely to follow the free use of the nitrate of silver: it may be safely allowed to remain in contact with the conjunctiva for a few seconds.

As the disease advances, the difficulty of applying this remedy diminishes, for the tension of the eye-lids gradually wears off, and they often become much relaxed, with a decided tendency to eversion, and are sometimes indeed considerably everted.

In the early stage, while there is a chance by vigilant attention of saving the eye, the nitrate should be freely applied at least once in each day, until the chemosis and the puriform discharge are so much lessened as to leave no doubt that the violence and danger of the disease have passed away. On some occasions, I have repeated the application morning and evening, more particularly when ulceration of the cornea had occurred to any considerable extent.

The nitrate of silver I regard as the sheet-anchor in the treatment of purulent ophthalmia. If it be properly and efficiently used, but little else can be necessary: without it, I should entertain but little expectation of a successful issue of any case at all severe in character."

This is one of the neatest and most practical little works on diseases of the eye which we have ever seen. We have perused a great portion of it with attention, and hope it may be a text book for all general practitioners. It is truly a good book, and will not mislead any one.*

* The Oculist's Vade-Mecum: a complete Practical System of Ophthalmic Surgery. With numerous Wood Cuts and Coloured Engravings of the Diseases and Operations of the Eye. By John Walker, Surgeon to the Manchester Eye Hospital, formerly Lecturer on the Eye in the Manchester Royal School of Anatomy and Medicine, &c. 1843.

One of the most interesting works which we have lately read is that "On Food and Diet" by Dr. Pereira. It contains an epitome of the views of Liebig, Prout, &c., on this subject, and embodies much of the "organic chemistry" of the former writer. Dr. Pereira brings forwards all the opinions recently advanced with respect to the uses of nitrogenised and non-nitrogenised food in the animal economy which may be briefly stated as follow :—

1. Nitrogenised foods are alone capable of conversion into blood, and of forming organised tissues.

2. Nitrogenised foods which contain proteine, as albumen, fibrine, caseine, and gluten, alone form the albuminous and fibrinous tissues.

3. Gelatine is incapable of conversion into blood; but it may perhaps serve for the nutrition of the gelatinous tissues (cellular tissue, membrane, and cartilage).

4. Non-nitrogenised foods support the process of respiration by yielding carbon, and, in some cases, hydrogen, to be burnt in the lungs, and thereby to keep up the animal temperature.

5. Some of the non-nitrogenised foods contribute to the formation of fat, the carbon and hydrogen of which are ultimately burnt in the lungs, and thereby develope heat.

6. With the exception of the substance of cellular tissue of membranes, and of the brain and nerves, all the organic materials of which the animal body is composed are derived from vegetables, which alone possess the property of producing compounds of proteine.

Dr. Pereira then states the following circumstances which appear to raise some difficulties or objection to the unqualified admission of the opinions above referred to.

1. When benzoic acid, a non-nitrogenous substance is taken into the stomach, it appears in the urine in the form of hippuric acid. For this fact we are indebted to Dr. Alexander Ure. This hippuric acid is probably formed by the elements of the benzoic acid, with the addition of those of lactate of urea.

It cannot, therefore, be doubted, 'that a non-azotised substance, taken in the food, can take a share, by means of its elements, in the act of transformation of the animal tissues, and in the formation of a secretion.' Consequently, the possibility of the conversion of non-nitrogenised foods into nitrogenised constituents of the animal body does not appear by any means improbable.

2. Liebig's explanation of the uses of nitrogenised and non-nitrogenised foods does not account for the fact stated by the Commissioners of the French Academy, that while fibrine, albumen, and gelatine, taken together or separately, are incapable of supporting animal life, gluten from wheat or maize is alone sufficient to satisfy complete and prolonged nutrition. As fibrine, albumen, and gluten, are said to be identical in composition, their nutritive powers ought to be equal.

3. According to Liebig and Dumas, sugar is an element of

respiration. Now as it can only reach the lungs by means of the blood, traces of it ought to be found in this fluid: yet it does not appear that sugar is a constituent of healthy blood. At least it has not hitherto been found in it, though a one ten-thousandth part of sugar added to blood can be readily detected. This circumstance, therefore, seems rather to shew that sugar undergoes some complete change in its nature previous to its passage in the blood. Several facts favour this opinion. In the first place,—of the foods (viz. yolk of eggs, and milk), supplied by nature for the early stages of animal existence, sugar is found only in that food (milk) which undergoes digestion before its application to the purposes of the economy. Secondly, in diabetes, the digestive powers are greatly impaired, and saccharine assimilation is suspended. Sugar is then detected in the blood. Now it cannot be said that its presence is owing to any defect in the respiratory process, since fatty matter appears to suffer the ordinary changes in the pulmonary organs.

4. According to Dr. Prout, the contents of the stomachs of animals fed on vegetable substances, even when fully digested, and about to pass the pylorus, exhibit no traces of an albuminous principle; while the chymous mass of animals fed on animal food contains albumen.

It would appear, therefore, that albumen is formed subsequently to the passage of the chyme into the duodenum. Now this is in complete contradiction to Liebig's statement, that albumen pre-exists in the vegetable food of the herbivora, and is not formed in the animal economy. Dr. Prout's statement harmonizes well with another fact well known to physiologists, namely, the non-existence of fibrine in the contents of the duodenum, though, according to Liebig, this principle also pre-exists in the food of animals, and is not formed by them. It has even been said that the chyle contains no fibrine until after its passage through the mesenteric glands.

5. If the nitrogenised substances requisite for the nutrition of the animal body exist ready formed in plants, the necessity of more complex organs of digestion for the herbivora than for the carnivora is not very obvious. Liebig thinks that it 'is rather owing to the difficulty of rendering soluble and available for the vital processes certain non-azotised compounds (gum ? amylaceous fibre ?) than to any thing in the change or transformation of vegetable fibrine, albumen, and caseine, into blood; since, for this latter purpose, the less complex digestive apparatus of the carnivora is amply sufficient.' But this suggestion is not a very satisfactory one. Gummy and amylaceous substances are eaten, and, apparently, digested, by some animals which are essentially carnivorous in the structure of their alimentary canal. Moreover, as the leading distinction in the food of the herbivora and carnivora consists in the use, by the former, of substances containing vegetable fibrine, albumen, and caseine, while the latter employ

animal fibrine, albumen, and caseine,—it appears more natural to connect the peculiarity in the structure of the digestive organs with the nitrogenised, than with the non-nitrogenised, food,

6. No plausible explanation has hitherto been offered, by Liebig, or others, of the necessity for the variation of diet, and for the use of succulent vegetables or fruits which experience has shewn to be necessary for the preservation of human health and life. Liebig has shewn that food must contain both a plastic element of nutrition and an element of respiration; but it is well known that a diet (as of salt meat and biscuits), which fulfils both of these conditions, is not always sufficient to preserve health and life.

It cannot be a matter of doubt that non-nitrogenised substances are intended by nature to constitute part of the food of man and other animals, but especially of the herbivora, since we find them in the aliments supplied by nature for animals during the first period of their existence. Thus, in the yolk of egg (the food of the embryo chick) we find fixed oil,—and in milk we have sugar and butter, both non-nitrogenous principles. If to these proofs we further add the fondness of animals for non-nitrogenised substances, the craving, nay almost insatiable desire, for them, manifested by individuals who are deprived of them, and the fact before mentioned, that nitrogenised food alone cannot support life, not a doubt can remain in our minds that these principles are essential to health and life.

In commencing our enquiry, then, into the particular purpose they serve in the animal economy, Dr. Pereira observes in the first place, that with the exception of fat, none of them are constituents of the animal system: nor in a state of health are they found in the blood or the excretions. It is obvious, therefore, that they must suffer some change or transformation in the organism. Now they all consist of carbon, hydrogen, and oxygen. In starch, sugar, and gum, the hydrogen and oxygen are exactly in the ratio to form water. Do they, therefore, contribute carbon, and in some cases, hydrogen also, to assist in the formation of blood? Liebig asserts they do not, for he observes that as the nitrogenised principles used as food contain exactly the 'amount of carbon [and hydrogen] which is required for the production of fibrine and albumen,' it follows that the carbon of gum, sugar, and starch, and the carbon, and hydrogen of butter and other fats, cannot 'be employed in the production of blood.' If the nitrogenised principles contained less carbon than albumen and fibrine, then starch, sugar, gum, and fat, might give up some carbon to compensate the difference. He, therefore, concludes, that these bodies yield their carbon, and, when their hydrogen is in excess to their oxygen, part of their hydrogen also, to form, with atmospheric oxygen, carbonic acid and water, and, therefore, to devolope heat. They serve to protect the organism from the action of the oxygen, which, in the absence of food, consumes the tissues.

'If,' says Liebig, 'we observe a man or other animal in sickness, or at any time when the body is not supplied with nourishment to compensate for the continual loss, we find him to become lean: the fat is the first to disappear, it vanishes through the skin and lungs in the form of carbonic acid and water, as none of it can be found in the fæces or urine: it resists the action of the atmosphere on the body, and is a protection to the organs. But the action of the atmosphere does not end with the loss of fat: every soluble substance of the body enters into combination with the oxygen of the air. The influence of the oxygen of the atmosphere is the cause of death in most chronic diseases: from want of carbon to resist its action, that of the nerves and brain is used. In a normal state of health and nutrition, the carbon of the carbonic acid must have another source.' Thus, then, it would appear that nitrogenised aliments alone are assimilated: the non-nitrogenous ones are burnt in the lungs.

But it may be asked, why, if both sugar and fat serve merely for combustion in the lungs, are both of these principles contained in the milk, since theoretically, one of them would appear to be sufficient? Moreover, if sugar be burnt in the lungs, is it not remarkable that it has not, in the healthy system, been detected while in its passage from the digestive organs to the lungs? Surely some traces of it ought to be recognizable in the blood? Hitherto, however, none have been found. Does not this fact seem to shew that it undergoes some transmutation during digestion, different to that which fatty substance suffers? The yolk of the egg serves directly for the nourishment of the embryo chick, but it contains one non-nitrogenised organic principle (oil) only. But milk, which also serves for animal food, contains two (butter and sugar). Now milk requires to be digested before it can be assimilated; whereas yolk of egg does not,—in fact, it serves for food before the digestive organs are developed. This fact, therefore, favours the notion that sugar is in some way connected with the digestive process.*

We intended to have referred to Dr. Davidson's work on the same subject, but find that our space forbids us. We may say, however, that we have perused a great part of his work, and think

* A Treatise on Food and Diet: with observations on the Dietetical Regimen suited for Disordered States of the Digestive Organs; and an Account of the Dietaries of some of the Principal Metropolitan and other Establishments for Paupers, Lunatics, Criminals, Children, the Sick, &c. By Jonathan Pereira, M.D. F.R.S. and L.S., Licentiate of the Royal College of Physicians in London; Member of the Royal College of Surgeons; Fellow of the Royal Medical and Chirurgical Society; Corresponding Member of the Society of Pharmacy of Paris; Honorary Member of the Pharmaceutical Society of Great Britain; Examiner in Materia Medica and Pharmacy to the University of London; and Assistant Physician to, and Lecturer on Materia Medica at, the London Hospital. 1843.

it in every way worthy of its respectable author. It is entitled "A Treatise on Diet, comprising the Natural History, Properties, Composition, Adulterations and Uses of the Vegetables, Animals, Fishes, &c., Used as Food. By William Davidson, M.D., M.R.C.S.E., Member of the Faculty of Physicians and Surgeons of Glasgow; and lately Senior Physician to the Glasgow Royal Infirmary, and Lecturer on Materia Medica and Dietetics. 1843."

Mr. Erasmus Wilson has given us a new classification of the diseases of the skin. This classification is founded on the anatomy of this part; hence Mr. Wilson assumes for it the title of the "natural classification." It certainly offers advantages for the study and recollection of the pathology of cutaneous affections, and is additionally inviting from not interfering with the old established terms of cutaneous medicine used and employed since the time of Willan. This is certainly a great recommendation to a work of this kind, as medical men who have at some trouble, and after much practice made themselves masters of the diseases as described by Willan, &c., would not be disposed to recommence the study of a complicated subject on a new system, when they found themselves sufficiently successful in practice by attending to an old one. Mr. Wilson objects to the pseudo-scientific divisions of these diseases invented by Willan, and remarks that pathological appearances do not admit of a gradation of subdivision, such as is expressed in the terms, class, order, genus, and species. "The most that can be admitted is a class of cutaneous diseases, these divisible into orders or groups, but the groups separate at once, to the exclusion of genera, into individual diseases or species, and varieties of those diseases. The differences between any two varieties are never so strongly marked as to admit of consideration as species in the proper sense of employing that term."

We might give some most interesting details on the treatment of the different diseases of the skin from this very complete work of Mr. Wilson, but we have only room for the following, on the subject of *impetigo capitis*.

The different kinds of impetigo are caused by suppurative inflammation of the dermis, which gives rise to pustules.

There is a wide distinction, says Mr. Wilson, between a vesicle and a pustule, when these two pathological forms present their typical characters; but it not unfrequently happens, that in consequence of a reparative action set up in the vesicle, pus is produced upon its dermic base, and mingling with the serum, constitutes a sero-purulent, and, subsequently, a purulent or pustular vesicle. In such a case it is necessary to remember that a true pustule contains pus from the first moment of its formation, and by this circumstance is essentially distinguished from a vesicle.

It is requisite, at the onset of our study of cutaneous diseases, to be most precise in our definitions, and to draw as broad a line

as possible between the various pathological forms which we are desirous of characterizing. Scarcely any word has been used more loosely than the term pustule in medical nomenclature. At one time it was employed to signify a papula, at another a vesicle, and it was not until the time of the Linnæus of cutaneous pathology, that the proper application of the term was truly made. Willan employed it, with the characters above stated, as the type of his fifth order—*pustulæ;* and in this sense it has been subsequently adopted by successive dermatologists.

The diseases which Mr. Wilson considers under the definition above given, are two in number—namely, Impetigo, Ecthyma.

The order pustulæ of Willan embraces five diseases, two of which, had he lived at the present time, would have been excluded by himself—namely, porrigo, and scabies. The genus porrigo of Willan contains diseases of the most opposite kind, and has been the source of much confusion, so much, indeed, that it would be well that the term should, for the future, become obsolete and forgotten. What relates to true porrigo will be found in this classification under the designation *favus*. Scabies, again, is a disease possessing several elementary forms, of which both vesicles and pustules are accidental, and only occasionally present; the pustules, when they exist, belonging to ecthyma. Variola, as placed by Willan in the order pustulæ, is forcibly torn from all its natural affinities, and for this reason Mr. Wilson transfers the genus to the group of eruptive fevers. Rayer admits no less than ten genera of pustular inflammations, for four of which he is indebted to variola—namely, variola, varicella, vaccinia, and vaccinella. There could have been no objection to thus establishing a distinct group of variolous affections, indeed, some benefit might have flowed from such an arrangement, but the possible advantages are immediately destroyed by the companionship with which he has leagued them. Thus, from the highly inflammatory and contagious fever of variola, we pass on immediately to three diseases of the sebaceous glands—namely, rosacea, acne, and sycosis; next in order follows impetigo, then favus, a peculiar disease of the hair follicles, and lastly, ecthyma.

Impetigo Capitis.—That affection of the face and head of young children termed milk-crust, or crusta lactea, and by Willan, porrigo larvalis, is an impetigo figurata, identical with the typical form of this disease, or if it be in any kind different, modified merely by the age of the patient, or by its more or less extensive occupation of the scalp and face. Crusta lactea presents several varieties in relation to a degree of inflammation and thickness of crust; it may exist upon all parts of the head and face at the same time, or be located separately upon the face, the scalp, the ears, the temples, the alæ nasi, or the lips.

The pustules of crusta lactea, from exposure to the influence of the air, are somewhat whiter than those of impetigo developed

on more protected parts of the body. They are accompanied by much itching, and are frequently broken by the action of the nails; the escape of pus and of the viscous sero-purulent fluid which succeeds giving rise to the characteristic greenish-yellow crusts of impetigo; and when, as frequently happens, the blood flows from the wounds caused by the nails, those parts of the crusts stained by the sanguinolent fluid assume a deep brown colour. When the wounds inflicted by the nails are deep, cicatrices are apt to remain after the subsidence of the disease, but, under ordinary circumstances, the skin is left perfectly free from any trace of morbid action. On the fall of the crust, the skin is red and congested, and covered by a thin and glossy epidermis; by degrees, the natural hue of the integument is restored, and the epidermis, after repeated exfoliations, regains its normal appearance.

Treatment.—In impetigo, unaccompanied by severe or extensive inflammation, emollient and sedative fomentations, the vapour bath and water dressing are the proper applications. If the inflammatory action be greater, a few leeches may be applied with benefit, and if the inflammation be extensive as well as severe, general bleeding may be employed. If the above simple treatment fail in restoring the skin to its healthful condition, alkaline, or sulphuro-alkaline or astringent lotions may be used, or any one of the following ointments—namely, oxyde of zinc, calamine, acetate of lead, fuligokali, white precipitate, or dilute nitrate of mercury. Hydrocyanic acid, in the formula recommended by Dr. Thomson, is also a valuable remedy:—

℞ Hydrocyanic acid, ʒiv.; acetate of lead, gr. xv.; alcohol, ʒiv.; water, ℥vij. M.

In the chronic form of impetigo, the vapour douche and bath will be found invaluable remedies; they soften and remove the crusts without exciting pain, and calm the irritation of the skin. After the entire separation of the crusts, the inflamed surface should be bathed with a weak alkaline or astringent lotion, and enveloped in oilskin, the vapour douche being repeated once or twice daily. Should the disease resist these measures, recourse may then be had, in turn, to lotions containing sulphuret of potash, nitric acid, and nitrate of silver. The ointment of the nitrate of mercury may in some cases be found useful. Creasote ointment, and zinc ointment, may be employed successfully after the local action has been reduced, and the system regulated. In very obstinate cases, arsenic, both as a general and local measure, has been recommended.

The constitutional treatment should consist in the restoration of any of the organic functions that may be disturbed. For this purpose, laxative medicines, antacids, emmenagogues, and tonics, may, according to the indications of the case, be employed.

In the treatment of crusta lactea, warm bathing and the vapour bath, with weak alkaline fomentations, are the chief remedies. The other applications above recommended may also be used in a diluted form; and in strong and robust children it is often desirable to diminish the congestion of the skin by means of one or two leeches. The internal exhibition of laxative remedies, such as mercury with chalk, and rhubarb, or rhubarb and magnesia, will also be found useful, and in most instances, when the infant is sucking, it will be proper to change the nurse, or wean the child. Rayer judiciously recommends, that where this disease depends obviously on dentition, and where the constitutional symptoms accompanying that state are relieved by its presence, we should be cautious in repressing the disorder, and confine our treatment to simple cleanliness.

In impetigo of the scalp, the hair should be cropped over the diseased parts, and the crusts completely removed by means of the vapour douche and water-dressing. The parts should be kept free from the irritation of fresh incrustations by frequent washing, and the same remedial means pursued as above recommended for impetigo in other parts of the body.

An incident which recently fell under my notice, says Mr. Wilson, speaks volumes with regard to the treatment of this disease. I had often occasion to observe with regret the utter uselessness of all medicinal applications in the treatment of these cases in the St. Pancras Infirmary, where numerous children are annually affected, and several are constantly in the sick wards. This want of success originated in the absence of proper nurses to carry out the directions of the surgeon. It was in vain that the necessity of cleanliness was urged upon them; they received little for their labours, and were not disposed to engage in a most disagreeable duty on philanthropic grounds alone. Under such circumstances, the pharmacopœia was exhausted of its specifics, but no advantages resulted. Things were in this state, and I had little hope of change, when to my surprise and delight, I perceived the number of patients suddenly diminish, and those who remained looked cheerful and better in health. I inquired into the cause of this change, when I learned that a new nurse had been appointed to the charge of the children, and that she had set her shoulder vigorously to the wheel of these obstinate eruptions, and had turned out several cures. Upon asking her how she proceeded, she of course looked mysterious, but I quieted her fears of my perquisitions, by telling her that it was not her secret that I sought, that my object was simply to approve of her proceeding, and to urge her to its continuance. She said in reply, that her treatment consisted in the application of a remedy derived from a "subscription" given to her mother by Sir Astley Cooper, that this legendary specific was a coarse admixture of "butter and pepper." For sound philosophy this remedy, in its modus operandi, is worthy of the celebrated name with which the female

asclepiad had associated it, and I applauded its effects; it was an apt illustration of the sympathetic treatment of wounds by anointing the weapon with salves, and swathing it in countless bandages. But I reserved for myself that which my female co-labourer could not have comprehended—the perception of the benefit derivable from the thorough ablutions and rigid cleanliness with which the specific was accompanied."*

Dr. Wilson thinks that the medicines of most approved use in chorea are not of the class supposed especially to affect the "nervous system." Like the causes which induce the symptoms, they seem to operate for its relief, through the common material and general agencies of the animal nutrition. Acting as purges, they lessen irritation; and being alterative, are antispasmodic. Purging in chorea is good practice, but resting, as it does, with many, on a false and exclusive principle of "nervous irritation," Dr. Wilson thinks that it is often carried to a mischievous extreme. The waste following from excessive use of aperient medicines is, indeed, one occasional cause of chorea, and has often prevented its cure. Under all methods of treatment, the healthy nutrition of the frame, let it be remembered, is the end proposed. The bowels are set free, that the system may be better fed. In most cases of the disease, we can not do better at first than purge briskly and frequently. Under this simple plan, with a regulated supply of wholesome food, the symptoms, though severe, will often entirely subside.

Not long back a child in St. George's Hospital, suffering severely from chorea, was kept for many days longer than Dr. Wilson had intended on the "broth diet" ordered on his first admission. Under purging and the mineral tonics, the symptoms were continually aggravated, until the mistake in the diet-card was remedied by the substitution of the ordinary diet of meat and vegetables for broth and pudding; when the little patient began, at once and rapidly, to recover.

Impressed with the belief that chorea, in its acute, unmixed form, is a fever, tending, through its own symptoms, to its own cure, Dr. Wilson relies much on the use of certain specific remedies in the treatment of this disease. The power of arsenic in the control of chorea is established in his mind, by the record of many cases in many years, as one of the strongest and strangest truths of practical medicine. That Fowler's Mineral Solution has often lessened the severity, and shortened the duration of this dis-

* A Practical and Theoretical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Skin: arranged according to a Natural System of Classification, and preceded by an Outline of the Anatomy and Physiology of the Skin. By Erasmus Wilson, Consulting Surgeon to the St. Pancras Infirmary; Lecturer on Anatomy and Physiology in the Middlesex Hospital School of Medicine; Honorary Associate of the Veterinary Medical Association; Fellow of the Royal Medical and Chirurgical Society.

order, there can be no doubt. And this, we should remember, i effected by a dose that is infinitesimal. Let no physician, says Dr W., refuse this phrase. Though perverted, it implies the principle o the vaccine virus, with that of small pox fever,—of marsh miasma as of plague by contagion. Of elements electro-chemical in thei relation, by air or food, with the blood, who may presume t declare how much or how little is essentially necessary for th production of disease, or of the actions which are its cure? In th mass of the blood, by function as in composition, a slight re-agenc may suffice for the greatest ulterior change.

It would be difficult to conjecture, by what inference of pre scription the most deadly of mineral poisons was first administere in this disease of impaired animal nutrition. That the little squalid, emaciated subjects of chorea, should recover from th exhaustion of its spasm, and literally fatten, on arsenic and jalap is a truth far beyond the apprehension of medical science, an inconceivable, excepting as a fact established by repeated observa tion. Here, as generally in the cure of disease, chance, we ma suppose, has afforded a principle, which analogy has extended, an experience maintained.

Chorea is, for the most part successfully treated by the minera tonics; but every case of the disease is not always capable o improvement by these adventitious principles. Its symptoms are sometimes, those of congestion in the brain and other vital organs requiring measures of more direct and immediate relief than ca be afforded by alterative doses of iron or of arsenic. Venesectio would be most difficult, if not impossible, in the violent paroxysm of chorea; but there is, occasionally, a strong indication for th use of leeches to the chest and temples. Opium, if given wit proper reserve, is at times of the greatest service, in gaining fo the patient an interval from spasm, which might otherwise prov fatal by exhaustion.*

The surgery of vaccination, simple as it may appear, ha been a fruitful theme of controversy. Differences of opinion hav existed with respect to the selection of lymph, the mode of makin the incisions, and the number of incisions necessary to insure full effect. Each of these points merits attention.

Dr. Gregory observes, that one of the earliest and most impor tant disputes which chequered the career of vaccination (ina much as it led to the secession of Jenner, in 1807, from th original Jennerian Institution) had reference to the mode o taking the lymph. Dr. Walker adopted the plan of detaching th epidermis from the vesicle, and vaccinating with the lymph (o fluid) which exuded from the abraded floor of the vesicle. Jenne objected strongly to this, and employed only the superficial lymph Dr. Walker persevered in his plan; and it is but fair to confes

* On Spasm, Languor, Palsy, and other Disorders, termed Nervous of the Muscular System. By James Arthur Wilson, M.D., Fellow of th College of Physicians, and Physician to St. George's Hospital. 1843.

that his vaccinations have stood the test of time fully as well as those conducted according to the Jennerian method.

The proper time at which lymph may be taken so as to obtain it in the most efficient state for propagating the disease, has also been a subject of discussion. Some have objected to the employment of very early lymph, others have scruples in taking lymph after the first appearance of areola, and all parties have concurred in condemning the use of lymph taken on or after the tenth day. The facts bearing on this question are as follows. The younger the lymph is, the greater is its intensity. The lymph of a fifth-day vesicle, when it can be obtained, never fails. It is, however, equally powerful up to the eighth day, at which time it is also most abundant. After the formation of areola, the true specific matter of cow pox becomes mixed with variable proportions of serum, the result of common inflammation, and diluted lymph is always less efficacious than the concentrated virus. After the tenth day the lymph becomes mucilaginous, and scarcely fluid, in which state it is not at all to be depended on. Out of a dozen incisions made with such viscid lymph, not more than one will prove effective. The scabs of cow pox, ground to powder, and moistened with lukewarm water to the consistence of mucilage, will sometimes reproduce the disease in all its purity, a satisfactory proof that the alteration which the lymph undergoes in its progress to maturity is not of a specific kind, liable to influence the result of the subsequent vaccination, but simply dilution. Experiments with diluted lymph were formerly made by Dr. Adams, at the Small Pox Hospital, and have since been repeated in France by M. Bousquet, and it is ascertained that effective vaccination may be thus produced.

Cow-pox matter differs in intensity according to the source from which it has been obtained. Very pure lymph, of great intensity, will often prove efficacious when taken from the arm on the ninth, and even on the tenth days. Experience teaches that all vesicles are not equally fitted to reproduce the disease in purity; but it requires a practised eye to detect these minutiæ. Irritable sores are often produced by draining the vesicle too much. Infantile lymph is more to be depended upon than the lymph obtained from adults. The matter of primary vaccinations is more energetic than that of secondary vaccinations. These statements may serve as a guide in the selection of lymph wherewith to vaccinate.

The number of incisions which it is requisite to make, in order to produce a full constitutional effect, has been always a disputed point. At an early period of vaccination one vesicle was held to be sufficient. Then three, four, or six, were recommended. In Germany, great importance is attached to the raising of numerous vesicles, it being a received doctrine in that country that, unless

some decided constitutional effect be produced, little reliance can be placed on the process as a security in after life. Common sense dictates that the greater the number of vesicles, the greater will be the local inflammation, and on this theory the greater the probability of constitutional sympathy. Some of the German inoculators have been in the habit of raising from twenty to thirty vesicles in each subject. In forming a just judgment on this matter, the nature and quality of the lymph must always be taken into account. Lymph recently derived from the cow possesses so much intensity, and fixes itself with so much more of a poisonous character upon the skin of the arm than lymph long humanized or habituated to the human constitution, that a single incision made with it is equivalent to six or eight made with lymph of minor energy.

Dr. Gregory recommends that with lymph of ordinary intensity five vesicles should be raised, and that these should be at such distances from each other as not to become confluent in their advance to maturation.

Vaccine lymph should always be used in a fluid state, and direct from the arm, wherever practicable, for it is a very delicate secretion, and very slight changes in it are capable of materially altering its qualities. Lymph which has been retained fluid for four or five days, is very apt to occasion that irritable vesicle described as the most frequent of all the anomalous appearances. Dr. Gulliver has lately been occupied in attempts to discover, by means of the microscope, what is the exact change which vaccine lymph undergoes by keeping, and which gives to it this noxious quality. His observations have not hitherto yielded any decisive results, but enough has appeared to warrant further and more extended inquiries.

When lymph fresh from the arm cannot be obtained, other means must be had recourse to. Vaccine virus may be preserved fluid and effective for two or three days in small bottles, with projecting ground stoppers, fitted to retain the matter. It may be preserved for a like time in small capillary tubes having a central bulb. This is the mode usually adopted in France for the transmission of vaccine lymph to the provinces, and which proves very effectual; but if we attempt in this manner to transmit lymph to the East or West Indies, we fail utterly.

Most surgeons have seen what are called ivory points. These, when well armed and carefully dried, are very effective. They will retain their activity in this climate for many months, and they are found to be the most certain mode of sending lymph to our colonies. Some practitioners prefer glasses to points, but they are less certain. The employment of scabs for the propagation of cow pox was first recommended by Mr. Bryce, of Edinburgh, in 1802. It is a very excellent mode of transmitting vaccine

matter to distant countries, but some nicety is required in operating with scabs, which experience alone can teach.*

Simple *nebula* of the cornea may be easily removed by a solution of nitrate of silver, or in more severe cases by the following drops.

℞ Hydrarg. Bi-chloride gr. ij. Aquæ Dist ʒi

It is a curious fact, that after the application of any of the usual stimulants employed for this purpose, in a few weeks, they appear to lose their effect, the eye, as it were, becoming invincible to them. It is therefore better to use the nitrate of silver drops for a few days; then a solution of the bi-chloride of mercury, then the vinum opii, which plan secures the unimpaired virtues of each. The effects produced by these various stimulants are different in almost every case, and it will be for the surgeon to regulate the precise strength capable of being employed without causing inflammation. The worst form of opacity we are called upon to treat, is *leucoma*, aud Dr. Hall, of Retford, admits that when this arises from extensive ulceration, which has altogether changed the nature of the corneal substance; or when extensive opacity is the result of some powerful escharotic, which, although it may not destroy the vitality of the part, appears to have produced some chemical change in its structure, it is useless to attempt the cure of such an affection. Still, although this opacity cannot be destroyed by any means at our command, or removed by a surgical operation, this admission only applies to the central portion of leucoma. In time its edges, on examination, will be found less opaque, and a halo of hope surrounds this dimness of vision; and although the more dense central portion does not admit of cure, something may be effected with the surrounding edges. Dr. Hall has seen cases where a steady continuance in the application of remedies has produced very great benefit, and the results are doubtless sufficiently favourable to justify their employment in all such unfortunate cases. He advises most strongly the nitrate of silver ointment, of a strength regulated to the peculiar condition of the affected eye, and also the continued use of counter irritation, behind the ears or at the nape of the neck. He also thinks that the regular application of this ointment ought to be combined with the internal use of mercury, and a slight degree of ptyalism kept up for a considerable period.

℞ Pulv. Argenti Nitratis gr. x. Liq. Plumb. Diacetatis ♏xx.
Adipis ʒi. ft. ungt.

This ointment should be used every night or every second night; it always creates more or less ophthalmia, and its application must be regulated accordingly.

* "Lectures on the Eruptive Fevers," delivered at St. Thomas's Hospital, in January, 1843. By George Gregory, M.D., Fellow of the Royal College of Physicians of London, Physician of the Small Pox and Vaccination Hospital, at St. Pancras, &c. &c.

The preparation of mercury most useful in these cases is the hydrargyrum bi-chloridum, he has given it for six or eight weeks in the following form without severe affection of the gums, irritation of the bowels, or any symptom which made it necessary to intermit or reduce the doses.

℞ Liquoris Hydrarg. Bi-chloridi ʒiss. Tr. Cinchonæ ʒij. Aquæ Dist. ʒviiss. M. ft. haustus ter in die sumendus.

He adds that in some cases where neither the drops of the nitrate of silver, nor the ointment of this substance can be borne, the ointment of the iodide of potassium may be substituted; but although useful in some cases, it is not nearly so efficacious as the preparations already mentioned.*

One of the best works on Syphilis is that by Mr. Carmichael, of Dublin. We have lately perused a great portion of the work, and strongly recommend our readers to possess it. Mr. C. classifies venereal complaints according to the character of the eruption, which affords a more certain basis for the classification than primary ulcers. He divides the different forms of the disease into the *papular*, *pustular*, *phagedenic*, and *scaly*; each of which forms he minutely describes. There is no disease which, in our opinion, requires greater discrimination in the use of a remedy than the different forms of the venereal disease. It has been customary to exhibit mercury for all its varieties, without any discrimination. On this subject Mr. Carmichael is very explicit.

If cases of the simple primary ulcer of the papular venereal disease do not yield to rest, the antiphlogistic treatment, and astringent washes, after the third or fourth week, he usually gives mercury in alterative doses, in the same manner and with the same views as he would exhibit it for any indolent ulcer which is not venereal; but this is seldom or never necessary.

When the papular and pustular eruptions become scaly, and obviously on the decline, in general not sooner than the fourth or fifth week, if not yielding satisfactorily to sarsaparilla, antimonials, or hydriodate of potash, he exhibits mercury in alterative doses, combined with sarsaparilla.

Whenever iritis occurs, he gives mercury so as to excite its full effects upon the system.

When nodes arise, which usually commence with inflammation of the periosteum, if iodine fails, he also gives mercury so as to produce tenderness and slight ulceration of the gums, but prefers

* Clinical Remarks on certain Diseases of the Eye, and on Miscellaneous Subjects, Medical and Surgical, including Gout, Rheumatism, Fistula, Cancer, Hernia, Indigestion, &c., &c. By John Charles Hall, M.D., (of East Retford,) Fellow of the Linnæan Society, Fellow of the Royal Medico-Botanical Society, Author of "Interesting Facts connected with the Animal Kingdom, and the Unity of our Species." And Member of the Royal College of Surgeons, London, &c.

the iodide to any other preparation; and, in the two last instances, it is exhibited on the principle, that there is no process so powerful in checking periostitis or inflammation of any membranous part, as mercurialization of the system.

In the phagedenic form of venereal disease, he has almost always found, sooner or later, the exhibition of mercury prove to be injurious. For primary ulcers, invariably so, and the same may be observed while the eruption continues to present the form of rupia, or tubercles. But after the disease has existed for months or years, when each succeeding crop of eruption has a tendency to change its character into that of scaly tubercles, alterative doses of mercury may, *perhaps*, be of use; yet of this he is very doubtful, for he has seen, even in this exhausted state of the disease, more relapses than perfect cures by mercury, exhibited either in full or alterative doses, under the most guarded and judicious mode of administering that medicine. In such cases he places much more reliance upon the administration of hydriodate of potash, in conjunction with sarsaparilla. When the presence of nodes indicates the utility of mercury, he restrains himself from its exhibition should rupia also be present, from experience of its injurious effects on the general disease, under this form of eruption: and even when extensive ulceration of the fauces, engaging the velum, tonsils, and entire pharynx, seems to threaten the life of the patient, he would try every method likely to succeed, before he would have recourse even to mercurial fumigations, for fear of mercurializing the *entire system*, although well aware of the benefit often arising from their use as a *local remedy*. He has found mercury, in every stage of the phagedenic venereal disease, to be a most deceitful and destructive drug; for, although symptoms may amend for a brief period under its use, and flatter both patient and practitioner that a speedy cure is at hand, yet, almost to a certainty, new symptoms will arise to disappoint those sanguine expectations. If mercury is at all admissible for this form of venereal disease, it is when the malady is obviously on the decline, and when the eruption has assumed the appearance of scaly tubercles or blotches. This observation equally applies to the pustular form of venereal disease.

For the true Hunterian chancre, with hardened edge and base, and for the scaly eruption, either lepra or psoriasis which attends it, as well as the deep excavated ulcer of the tonsils, nodes, and other symptoms belonging to this form of disease, mercury may be esteemed a certain and expeditious remedy; and the reason of the necessity of exhibiting mercury seems to be, that both in its primary and secondary symptoms there is but little or no accompanying inflammation or fever as in the other forms of those maladies. Hence, perhaps, the utility of raising artificially a fever in the system, to overcome the morbid effects of the poison. Mr. C. has no doubt, however, but that even this form of venereal may yield to other remedies, or even to the unassisted powers of

the constitution. But from the few instances he has seen treated on the antiphlogistic plan without mercury, so long a period elapsed before recovery took place, that it is not likely this remedy will ever be generally omitted in its treatment.

From this statement of his views, we perceive that it is only in cases of the true Hunterian chancre, with hardened edge and base, that he prescribes mercury with the intention of preventing the accession of secondary symptoms; but, in consequence of the unfrequency of this primary ulcer, it is therefore seldom required.*

In examining cases of hydrocele, in which the parietes of the sac are unusually thick, or in which the fluid is dark coloured, Mr. Curling states that he has sometimes derived considerable assistance from using a wooden tube about three-fourths of an inch in diameter, open at both extremities, one end being placed against the swelling opposite the light, the surgeon on looking through the other can observe the transparency with great advantage. Mr. Curling notices a fact not generally known, viz., that a hydrocele sometimes varies in size, being larger and more tense in the after part of the day than when the patient first rises in the morning. In the treatment of acute orchitis he strongly recommends the tartarized antimony.

"A quarter of a grain of tartar emetic may be exhibited every three or four hours, and the dose, if necessary, increased until nausea is produced. This is one of the most valuable remedies that can be employed in acute orchitis; and when patients are desirous of avoiding the trouble, mess, and exposure consequent upon the application of leeches, the exhibition of tartar emetic will generally render local depletion unnecessary, whilst its depressing influence being only temporary, the patient quickly regains his health and strength. I have seen most acute orchitis arrested and subdued in thirty hours by keeping up constant nausea by means of this remedy. When there is much pain or constitutional derangement, two or three grains of calomel, combined with eight or ten grains of Dover's powder, or with small doses of morphia, may be given at bedtime. In consecutive orchitis, in which the tunica vaginalis is so generally affected, considerable benefit is derived from mercury, and experience fully confirms what reason would lead us to expect from its remarkable efficacy in inflammation of the other serous membranes. The value, indeed, of mercury in the treatment of this form of orchitis,

* "Clinical Lectures on Venereal Diseases," by Richard Carmichael, M.R.I.A., President of the Medical Association of Ireland; Corresponding Member of the Royal Academy of Medicine of France, &c., and Consulting Surgeon of the Richmond, Hardwicke, and Whitworth Hospitals. Illustrated by coloured engravings of the different forms of eruption. Reported by Samuel Gordon, A.M.

scarcely appears to be fully appreciated by the profession. In acute cases, after the bowels have been freely acted on, and the pulse has been lowered by tartar emetic, I usually prescribe mercury, and continue it until the gums become slightly affected. I am confident that by this treatment the duration of this form of the disease is often materially abridged, and, what is of some importance, it is succeeded by much less induration and thickening of the epididymis than when the exhibition of mercury has been deferred to a later period."*

In noticing some portions of Dr. Ashwell's work on the "Diseases peculiar to Women," our selection will comprise what is *most* practical; as the great value of the book, in the author's own estimation, seems to have been its truthful adaptation to the detection and cure of disease. Guy's Hospital, the largest in Britain, afforded him daily opportunities on a very large scale for observing and treating these affections. The results are embodied in the histories and opinions contained in the book and in its numerous cases. The latter are nearly all verified, either by the hospital "imprimatur," being extracted from its ward books, open to general inspection; or by the name of the practitioner by whom Dr. A. was consulted. The absence of such authentication is at times unavoidable, and ought not then to weaken the influence of cases; but without being invidious, it may be assumed that their worth is greatly enhanced by so complete a freedom from all suspicion of partiality or error.

Dr. Ashwell remarks, "that structural disease of the lung is most frequently combined either with chlorosis alone, or with chlorosis and amenorrhœa. The vicissitudes of an English climate predispose to phthisical disease; and with the physiological circumstances peculiar to the sex, explain how it is that girls so frequently die, at the epoch of puberty, of this formidable malady. It is remarked, that patients apparently far advanced, sometimes recover, where the pulse becomes slower, fuller, and softer, the cough less frequent, where the pyrexia disappears, and especially where the patient, in ever so trivial a degree gathers flesh. Dr. Ashwell particularly enjoins early and sedulous treatment in this but slightly recognised complication; and affirms his belief, that it is far more frequent and fatal than has generally been supposed; scarcely a year passing without his seeing many melancholy examples. Early and entire change of air, a sea voyage, a milder climate, frequent travelling, and cheerful society, offer the best prospect, together with appropriate medical remedies, of creating or renewing vigour of system, and a healthy condition of the pulmonary organs.

* "A Practical Treatise on the Diseases of the Testis, and of the Spermatic Cord and Scrotum." With illustrations. By T. B. Curling, Lecturer on Surgery and Assistant Surgeon to the London Hospital Surgeon to the Jews' Hospital, &c.

In the chapter on amenorrhœa, some very interesting cases are narrated where it depended on congenital deficiency, malformation, and structural diseases of the genital organs. The opinion is enunciated, that menstruation as well as conception, is dependent on the existence and influence of the ovaries; it follows, therefore, if the absence of the function is dependent on the absence of these organs, the disease is irremediable. Where, on the contrary, an imperforate hymen, an occluded os, or a thin septum across the vagina, prevents the exit of the menstrual secretion, the knife, the bougie, or the finger, may accomplish a cure. If the cervix uteri exist, without a pervious canal, a trocar of small size, or a firm bougie, may form an artificial one; but in the other and more serious malformations, where there is extensive obliteration of the vagina, or merely a rudiment of this passage, or where there is only a space between the urethra and rectum, and where, although the uterus be present, it cannot be reached, except by exploratory incisions, in such complicated examples, the safety of the patient will generally depend on the discreet non-interference of the surgeon, while her cure must be looked for, from his courage and enterprize.

In the *inflammatory congestive* forms of dysmenorrhœa, Dr. Ashwell says that in addition to the usual remedies, *local* depletion is peremptorily required; and there are cases, where there is vascular fullness, in which a small general bleeding will be advantageous. Congestion almost invariably prevents secretion; the unloading of the vessels, therefore, aids the flow of the discharge. In the majority of instances, cupping on the loins, to the extent of eight, ten, or twelve ounces, or leeches, will suffice; and, if necessary, the bleeding may easily be repeated. Leeches to the os uteri have been already mentioned, and he thinks that when well applied, they are decidedly more beneficial than any other local depletion. Many times he has witnessed their superior efficacy in relieving the severe pain; in one instance, where the patient had been in the habit, for several years, of being occasionally cupped, the relief afforded by thus directly unloading the congested vessels themselves, exceeded, to use her own expression, any idea she could have formed. The speculum tube may be introduced into the vagina prior to their application; and if the cervix be brought fully into view, neither the vagina nor any other part than this portion of the congested viscus will be fixed on by the leeches. Their use should, as much as possible, be confined to married women. Dr. Ashwell thinks, that on "Congestive Menorrhagia," which generally occurs at the middle or advanced periods of life, enough attention has not been bestowed. It continues long, even for several years and frequently in alarming excess, inducing a feeble and quick pulse, coldness of hands and feet, and pallor, anxiety and collapse of the countenance. The bulk of the uterus is increased, there is fullness of the cervix

and the os is patulous. Congestion of the uterine vessels, is the explanatory cause of the bleedings. Happily the malady is generally cured, or perhaps it would be more correct to say, that as the catamenial function ceases, the bleedings cease also. But these formidable losses seriously injure the health and lay the foundation of uterine softening. There is, too, a probability of dropsy, and the sufferer may be destroyed by phthisis.

Cold to the lower abdomen and genitals, and particularly *plugging the vagina* with *soft tow*, when the bleeding threatens life, must be employed. Two alarming cases are narrated, where life was preserved by the injection into the cavity of the womb of a few drachms of the *spirit of turpentine*—the effect was very intense pain, and as though there had been burning coals in the uterus and bladder.

In cases of alarming menorrhagia, it is a matter of moment that the practitioner remain with the patient, and ascertain very frequently the extent of the hemorrhage. In puerperal bleedings, after the expulsion of the placenta, life is often dependent on this precaution. A crown princess of Austria, who had been attended by the celebrated Boer, of Vienna, (the case is related by Dr. Rigby) and many other women, have been lost from the neglect of its observance, and in these instances it is scarcely less necessary. After excessive menorrhagic bleeding by gushes, or in a stream, the powers of life are often reduced to a very low ebb ; and protracted but slight drainings may therefore afterwards insidiously and unexpectedly sink the patient.

Dr. Ashwell thinks the hard or fibrous tumours of the uterus genuine cancerous productions, although occupying the lowest place in the scale of malignancy. The following reasons appear to him conclusive :—

1. They possess the structure of compound adventitious cysts, the basis of this class of heterologue formations. 2. In the colour of the contained mass, and in the arrangement of the membranous septa or bands, the containing tissue ; they are identical with scirrhus. 3. In hardness, occasionally justifying the application to them of the term stone cancer ; they are not to be distinguished from the varieties of carcinoma already mentioned. 4. They occur very frequently in conjunction with growths of undoubted malignancy in other parts of the uterus. 5. And lastly, they possess one especial attribute of malignancy, incurability.*

On the diseases of females we have seen no work which we more approve of, and hope it will meet with very extensive circulation.

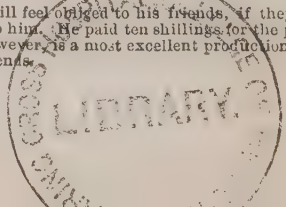
We are reluctantly compelled, by want of space, to omit noticing a few more excellent works which we have received, and the titles of which will be seen in the following list :

* A Practical Treatise on the Diseases Peculiar to Women. By Samuel Ashwell, M.D., Obstetric Physician to Guy's Hospital, &c.

BOOKS RECEIVED.

1. "Elements of Surgery," by Robert Liston, Surgeon to the North London Hospital, Professor of Clinical Surgery, &c. &c. Second edition, illustrated with engravings and woodcuts, by Bagg.
"Practical Surgery," with 150 engravings on wood, by Robert Liston. Third edition.
3. "A Practical and Theoretical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Skin," by Erasmus Wilson, Consulting Surgeon to the St. Pancras Infirmary, Lecturer on Anatomy and Physiology in the Middlesex Hospital School of Medicine, &c.
4. "A Treatise on Food and Diet, with Observations on the Dietetical Regimen suited to disordered states of the Digestive Organs, &c.," by Jonathan Pereira, M.D., F.R.S., and L.S., &c. &c. &c.
5. "Cataract and its Treatment, &c.," by John Scott, Senior Surgeon to the Royal London Ophthalmic Hospital, Surgeon to the London Hospital, &c.
6. "A System of Practical Surgery," by Wm. Fergusson, F.R.S.E., Professor of Surgery in King's College, London, Surgeon to King's College Hospital, &c. &c., with 246 illustrations by Bagg.
7. "The Oculist's Vade Mecum; a complete practical system of Ophthalmic Surgery, with numerous woodcuts and coloured engravings of the Diseases and Operations of the Eye," by John Walker, Surgeon to the Manchester Eye Hospital, &c.
8. "The Grave Yards of London, being an exposition of the physical and moral consequences inseparably connected with our unchristian and pestilential custom of depositing the dead in the midst of the living; with the examinations of the author upon this highly important subject before a Committee of the House of Commons," by George Alfred Walker, Surgeon, Author of "Gatherings from Grave Yards, &c."
9. "Interment and Disinterment, or a further Exposition of the Practice pursued in the Metropolitan places of Sepulture," by G. A. Walker, Surgeon, Author of "Grave Yards of London, &c."
10. "Advice to Mothers on the Management of their offspring during the periods of Infancy, Childhood, and Youth," by Pye Henry Chavasse, M.R.C.S.L. 3rd Edition.
11. "Cursory Notes on the Morbid Eye," by Robert Hull, Extra-Licentiate of the College of Physicians, Physician to the Norfolk and Norwich Hospital, &c. &c.
12. "Gatherings from Grave Yards, particularly those of London," by G. A. Walker, Surgeon.
13. "The Diseases of Children, their Symptoms and Treatment: a Treatise intended for the use of the Student and Junior Practitioner," by G. A. Rees, M.R.C.S., Surgeon to the General Dispensary for Children, &c.
14. "Essays on Determination of Blood to the Head," by Robert Hull, M.D., Physician to the Norfolk and Norwich Hospital, &c. &c.
15. "On Spasm, Languor, Palsy, and other Disorders termed Nervous, of the Muscular System," by J. A. Wilson, M.D., Physician to St. George's Hospital, &c.
16. "A Treatise on Diet, comprising the natural history, properties, composition, adulterations, and uses of the Vegetables, Animals, Fishes, &c., used as Food," by W. Davidson, M.D., M.R.C.S.E., late Senior Surgeon to the Glasgow Royal Infirmary, &c.
17. "The London Physiological Journal," Edited by S. I. Goodfellow, M.D. and E. I. Quekett, F.L.S.
18. "Observations on some of the more important Diseases of Childhood," by Chas. West, M.D., Physician to the Royal Infirmary for Children.
19. "The British Journal of Homœopathy," Edited by J. S. Drysdale, M.D., J. R. Russel, M.D., and Francis Black, M.D.
20. "Tenth Annual Report of the Trustees of the State Lunatic Hospitals at Worcester, Dec., 1842." Boston.*
21. "A Practical Treatise on the Diseases peculiar to Women," by Samuel Ashwell, M.D., Obstetric Physician to Guy's Hospital, &c. &c.

* The Editor will feel obliged to his friends, if they will pay the postage of pamphlets sent to him. He paid ten shillings for the postage of this pamphlet alone, which, however, is a most excellent production, and very creditable to our American friends.



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